FIG. 1

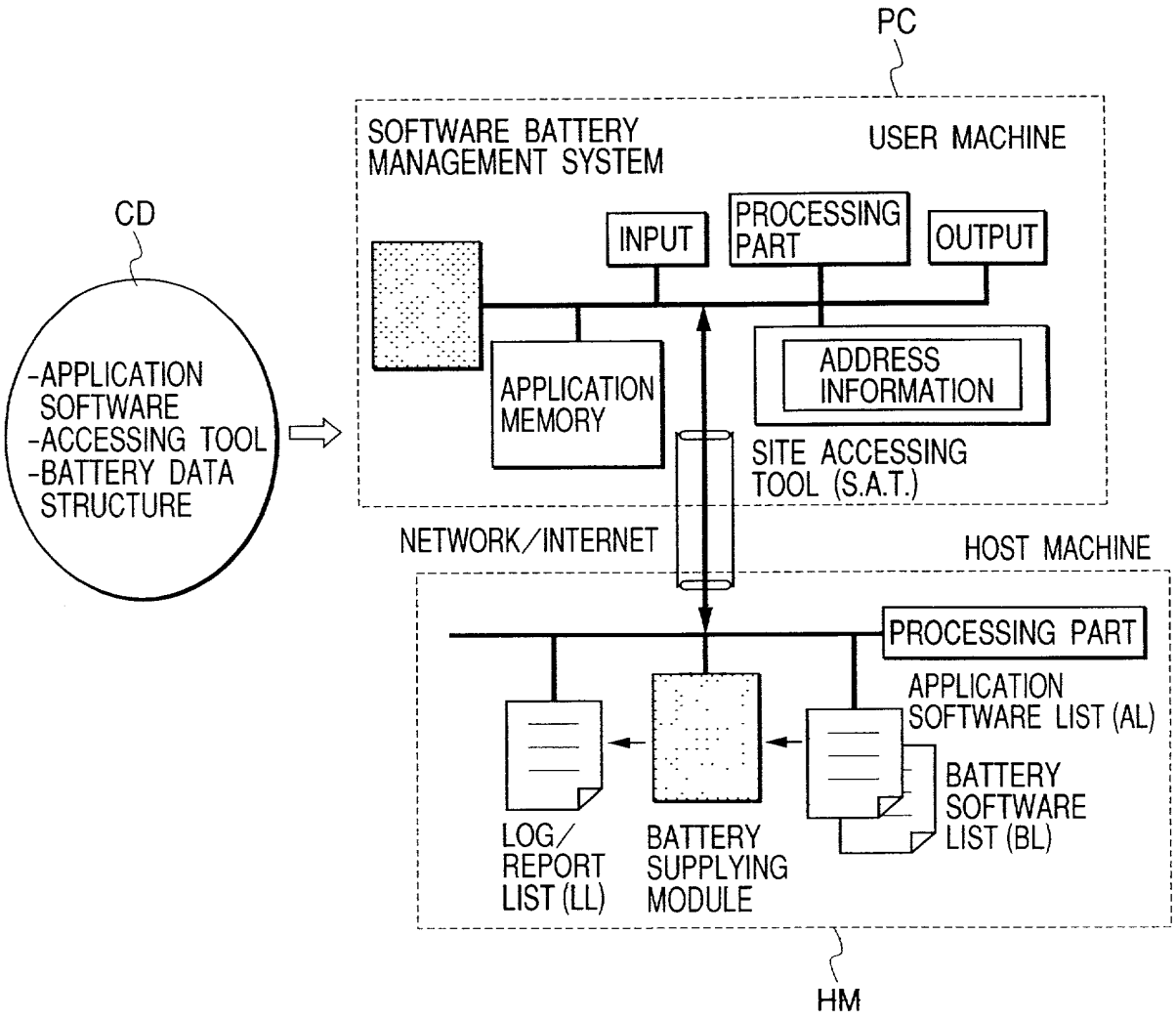
PC
SOFTWARE BATTERY MANAGEMENT SYSTEM
USER MACHINE
CD
-APPLICATION SOFTWARE
-ACCESSING TOOL
-BATTERY DATA STRUCTURE
INPUT
PROCESSING PART
OUTPUT
APPLICATION MEMORY
ADDRESS INFORMATION
SITE ACCESSING TOOL (S.A.T.)
NETWORK/INTERNET
HOST MACHINE
PROCESSING PART
APPLICATION SOFTWARE LIST (AL)
BATTERY SOFTWARE LIST (BL)
LOG/ REPORT LIST (LL)
BATTERY SUPPLYING MODULE
HM

FIG. 2

APPLICATION LIST (AL)

APPLICATION ID	APPLICATION NAME	BATTERY ID	VALID/INVALID

BATTERY LIST (BL)

BATTERY ID	CLAIMER ID	BATTERY SUPPLYING UNIT	BATTERY UNIT PRICE

BATTERY SUPPLYING HISTORY (BH)

DATE	KEY 1	KEY 3	APPLICATION ID	BATTERY ID	SUPPLYING AMOUNT

KEY 1 IS AVAILABLE TO IDENTIFY A USER

FIG. 3

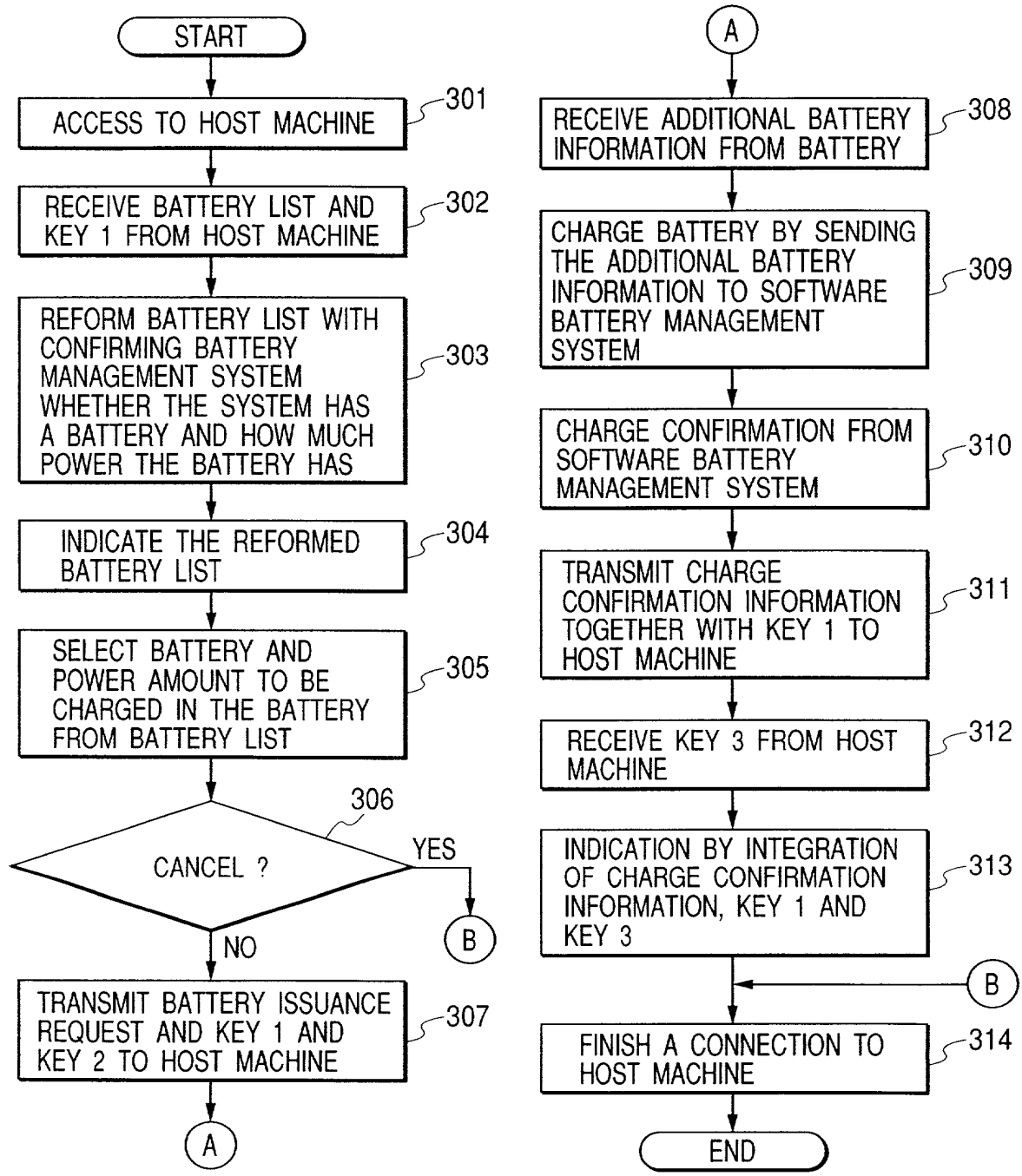
START
ACCESS TO HOST MACHINE
301
RECEIVE BATTERY LIST AND KEY 1 FROM HOST MACHINE
302
REFORM BATTERY LIST WITH CONFIRMING BATTERY MANAGEMENT SYSTEM WHETHER THE SYSTEM HAS A BATTERY AND HOW MUCH POWER THE BATTERY HAS
303
INDICATE THE REFORMED BATTERY LIST
304
SELECT BATTERY AND POWER AMOUNT TO BE CHARGED IN THE BATTERY FROM BATTERY LIST
305
306
CANCEL ?
YES
NO
B
TRANSMIT BATTERY ISSUANCE REQUEST AND KEY 1 AND KEY 2 TO HOST MACHINE
307
A
A
RECEIVE ADDITIONAL BATTERY INFORMATION FROM BATTERY
308
CHARGE BATTERY BY SENDING THE ADDITIONAL BATTERY INFORMATION TO SOFTWARE BATTERY MANAGEMENT SYSTEM
309
CHARGE CONFIRMATION FROM SOFTWARE BATTERY MANAGEMENT SYSTEM
310
TRANSMIT CHARGE CONFIRMATION INFORMATION TOGETHER WITH KEY 1 TO HOST MACHINE
311
RECEIVE KEY 3 FROM HOST MACHINE
312
INDICATION BY INTEGRATION OF CHARGE CONFIRMATION INFORMATION, KEY 1 AND KEY 3
313
B
FINISH A CONNECTION TO HOST MACHINE
314
END

FIG. 4

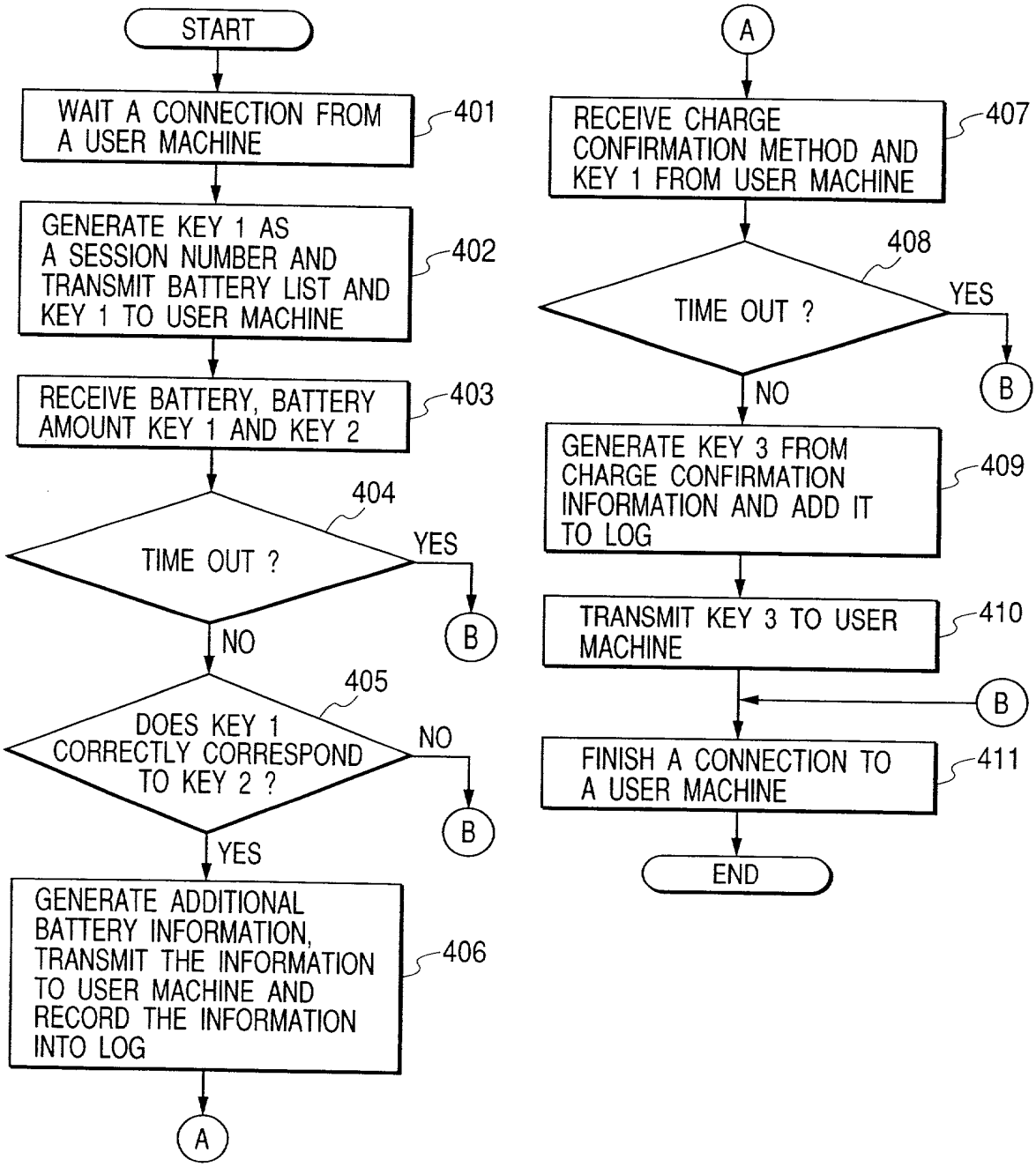

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FIG. 5

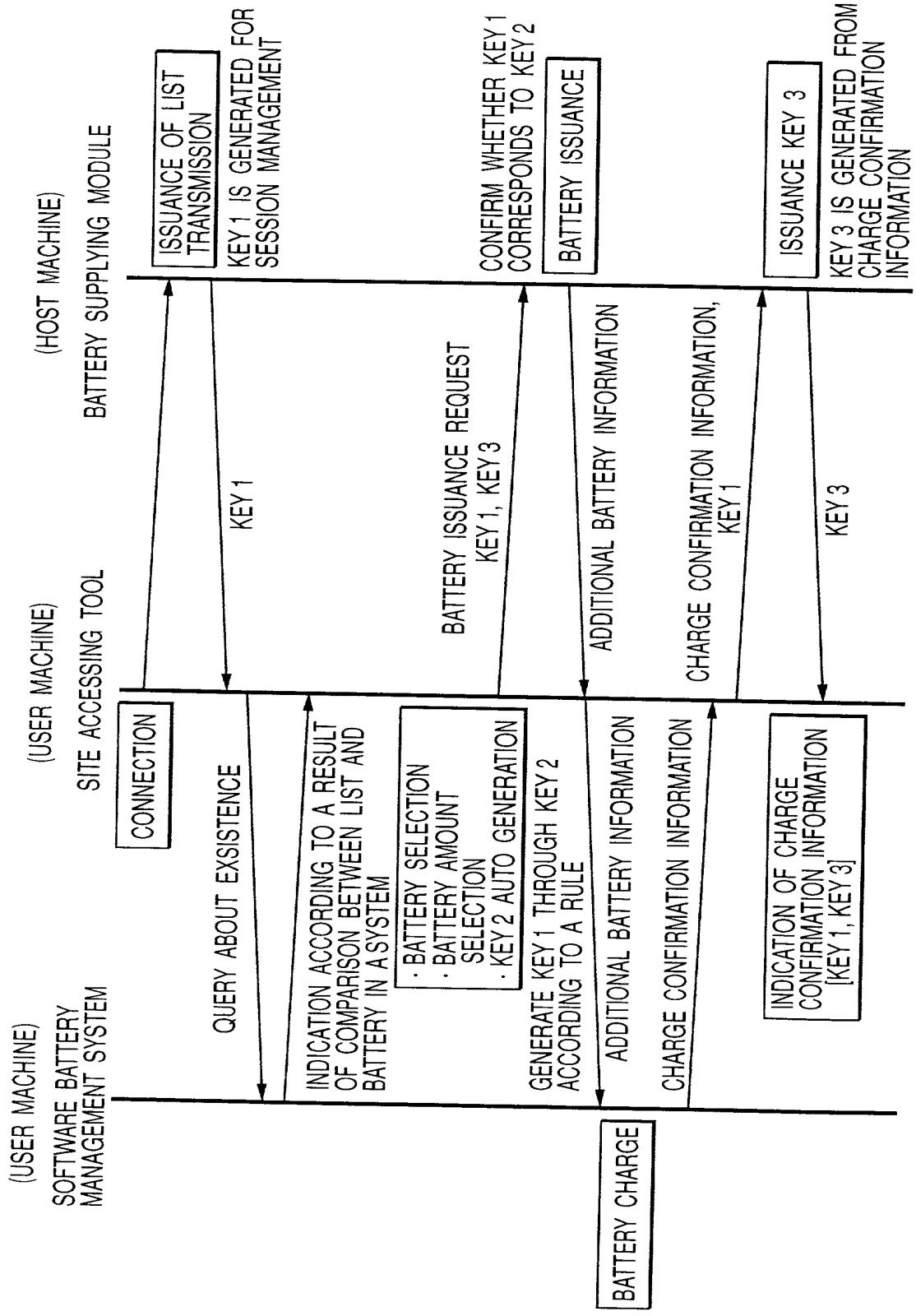

(USER MACHINE)
SOFTWARE BATTERY MANAGEMENT SYSTEM
(USER MACHINE)
SITE ACCESSING TOOL
(HOST MACHINE)
BATTERY SUPPLYING MODULE
CONNECTION
ISSUANCE OF LIST TRANSMISSION
KEY 1 IS GENERATED FOR SESSION MANAGEMENT
QUERY ABOUT EXSISTENCE
KEY 1
INDICATION ACCORDING TO A RESULT OF COMPARISON BETWEEN LIST AND BATTERY IN ASYSTEM
· BATTERY SELECTION
· BATTERY AMOUNT SELECTION
· KEY 2 AUTO GENERATION
BATTERY ISSUANCE REQUEST
KEY 1, KEY 3
CONFIRM WHETHER KEY 1 CORRESPONDS TO KEY 2
BATTERY ISSUANCE
GENERATE KEY 1 THROUGH KEY 2 ACCORDING TO A RULE
ADDITIONAL BATTERY INFORMATION
ADDITIONAL BATTERY INFORMATION
CHARGE CONFIRMATION INFORMATION, KEY 1
CHARGE CONFIRMATION INFORMATION
ISSUANCE KEY 3
KEY 3 IS GENERATED FROM CHARGE CONFIRMATION INFORMATION
KEY 3
INDICATION OF CHARGE CONFIRMATION INFORMATION [KEY 1, KEY 3]
BATTERY CHARGE

FIG. 6

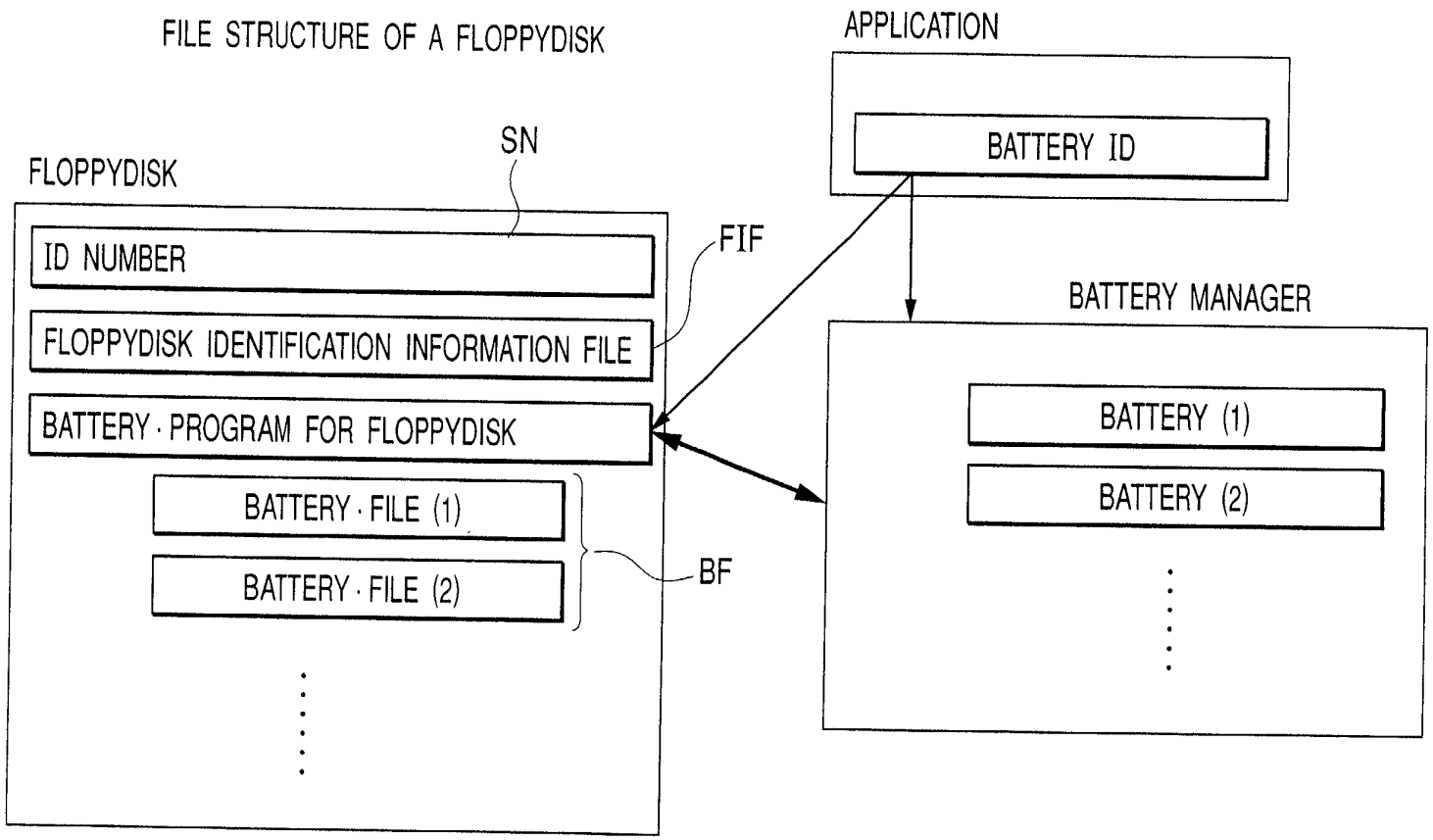

FILE STRUCTURE OF A FLOPPYDISK
APPLICATION
BATTERY ID
SN
FLOPPYDISK
ID NUMBER
FIF
FLOPPYDISK IDENTIFICATION INFORMATION FILE
BATTERY MANAGER
BATTERY · PROGRAM FOR FLOPPYDISK
BATTERY (1)
BATTERY (2)
BATTERY · FILE (1)
BATTERY · FILE (2)
BF

FIG. 7

OUTLINE OF ACTION OF BATTERY PROGRAM FOR FLOPPYDISK

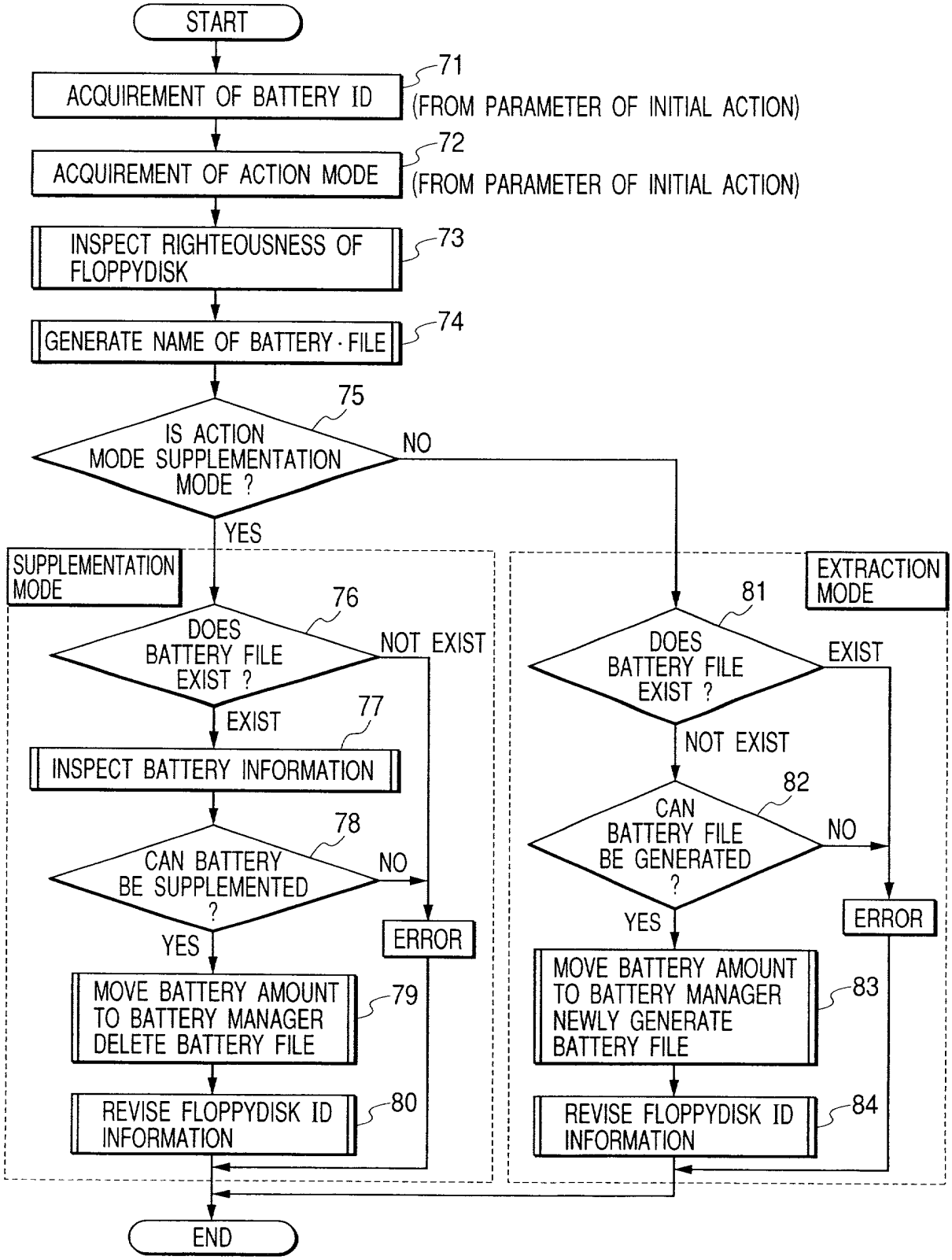
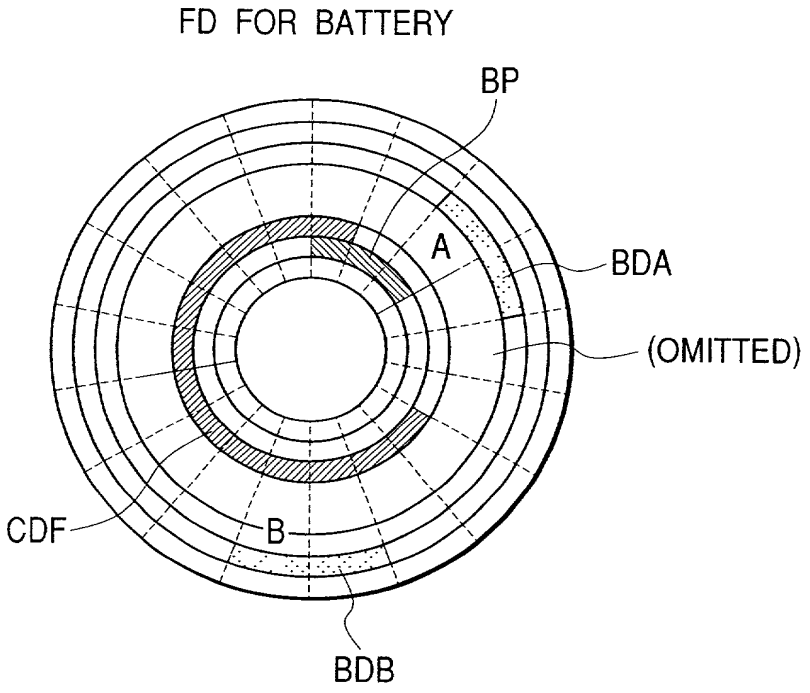


FIG. 8



BATTERY MANAGEMENT DATA FORMAT

SERIAL NUMBER OF FLOPPYDISK
FINALLY OPERATED DATE/TIME INFORMATION
FINALLY OPERATED BATTERY ID
FINALLY OPERATED BATTERY SUMMARY *1

* 1: NUMERAL DATA LIKE CHECK SUM TO CHECK IF BATTERY DATA IS NOT CHANGED

BATTERY DATA FORMAT

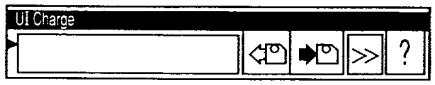
IDENTIFICATION INFORMATION OF BATTERY TYPE *2
BATTERY AMOUNT (INTEGER) *2
IDENTIFICATION FLAG OF POSSIBLE TO CHARGE OR IMPOSSIBLE TO CHARGE
IDENTIFICATION FLAG OF ATTACHABLE OR DETACHABLE
ESTIMATION VALUE OF REMAINING USABLE TIME/ NUMBER OF TIME

* 2: IT IS POSSIBLE TO ARRANGE TYPE AND AMOUNT OF BATTERY IN A VALUE

EP 0 951 054 A2

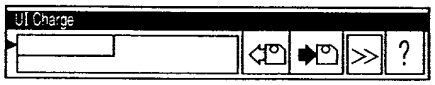
FIG. 9

VIEW 1



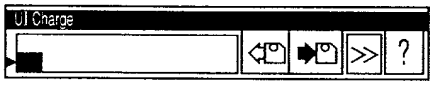
BATTERY AMOUNT DISPLAY AREA

VIEW 2



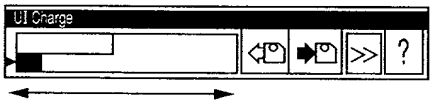
BATTERY AMOUNT DISPLAY AREA

VIEW 3



BATTERY AMOUNT DISPLAY AREA

VIEW 4



BATTERY AMOUNT DISPLAY AREA

VIEW 5

<STATUS OF BATTERY ATTACHMENT>

TYPE	WITH OR WITHOUT	REMAINING	REMAINING TIME	PROCESSING	
OR TEST	W	10unit	xx MINUTES LEFT	CHARGE	DETACH
NORMAL	W	100unit	xx MINUTES LEFT	CHARGE	DETACH
NOT RESTRICTED	W/O			CHARGE	DETACH

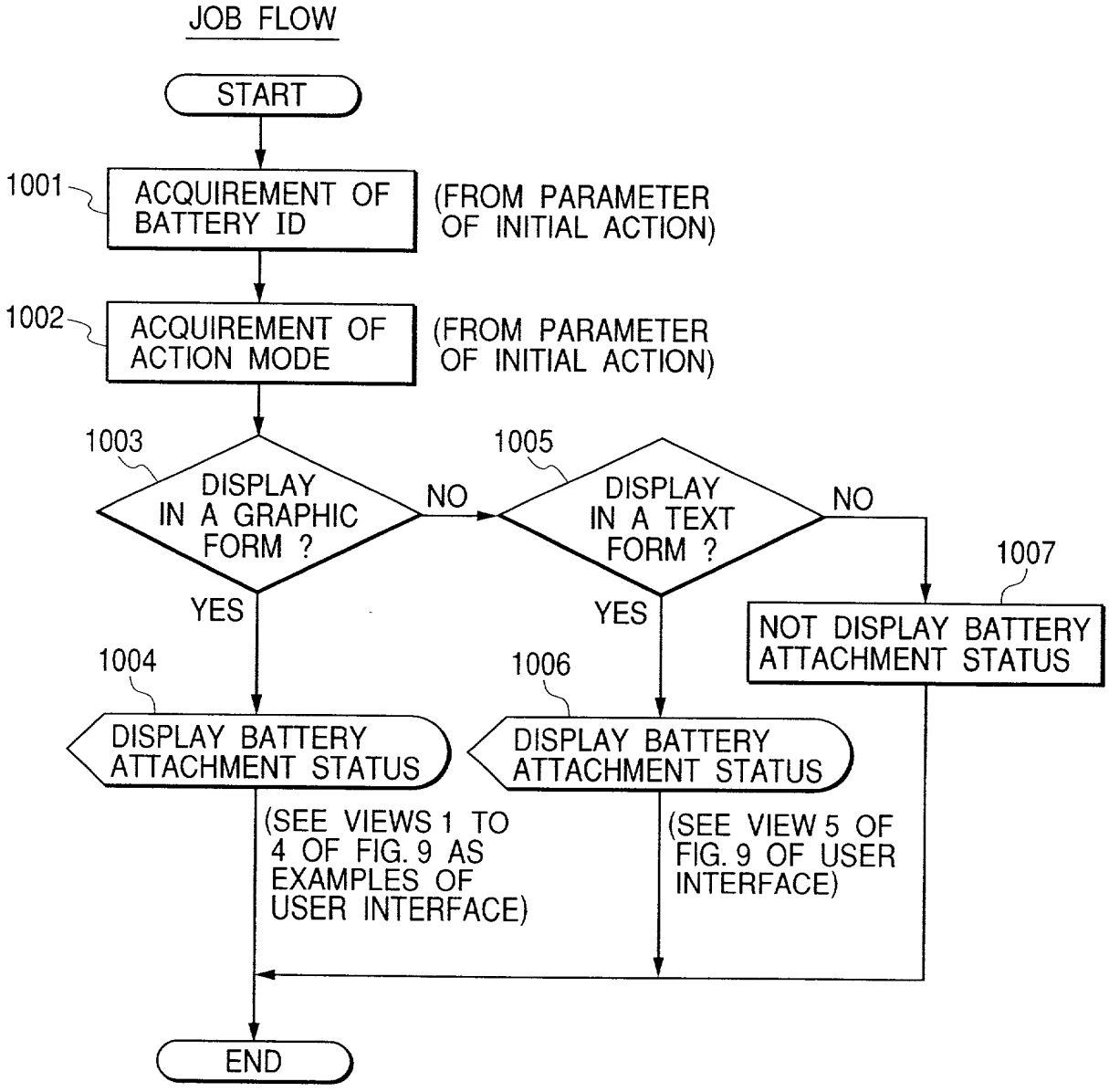
<CONSUMPTION ORDER>
CONSUME POWER FROM NORMAL BATTERY
☐ GENERATE OPERATION HISTORY FILE

DELETE OPERATION HISTORY FILE CLOSE HELP

VIEW 6

GRAPHIC DISPLAY
TEXT DISPLAY
NOT DISPLAYED

FIG. 10



US 2015/0154102 A1

FIG. 11

VIEW EXAMPLE

VIEW 1
ESTIMATION DISPLAY VIEW

<STATUS OF BATTERY ATTACHMENT>

TYPE	WITH OR WITHOUT	REMAINING	REMAINING TIME	PROCESSING
OR TEST	W	10unit	xx MINUTES LEFT	CHARGE DETACH
NORMAL	W	100unit	xx MINUTES LEFT	CHARGE DETACH
NOT RESTRICTED	W/O			CHARGE DETACH

<CONSUMPTION ORDER>
CONSUME POWER FROM NORMAL BATTERY
☐ GENERATE OPERATION HISTORY FILE

DELETE OPERATION HISTORY FILE | CLOSE | HELP

BATTERY DATA FORMAT

IDENTIFICATION INFORMATION OF BATTERY TYPE *2
BATTERY AMOUNT (INTEGER) *2
IDENTIFICATION FLAG OF POSSIBLE TO CHARGE OR IMPOSSIBLE TO CHARGE
IDENTIFICATION FLAG OF ATTACHABLE OR DETACHABLE
ESTIMATION VALUE OF REMAINING USABLE TIME/NUMBER OF TIME *3

*2: IT IS POSSIBLE TO ARRANGE TYPE AND AMOUNT OF BATTERY IN A VALUE

*3: CALCULATED AND REVISED ACCORDING TO SUMMARY FILE OF OPERATION HISTORY INFORMATION ACCUMULATED IN MAIN BODY

VIEW 2
NOTICE OF REMAINING AMOUNT DISPLAY VIEW

i NOW USING BATTERY WILL BE RUN DOWN BY REMAINING xx TIMES

CLOSE | HELP

OPERATION HISTORY INFORMATION ACCUMULATED IN A SYSTEM

<SPECIFIED DATA FILE>

BATTERY ID
OPERATION START TIME/DATE
SOFTWARE OPERATION FINISH TIME/DATE
OPERATION TIME
OPERATION UNIT NUMBER

<SUMMARY DATA FILE>

BATTERY ID
ACCUMULATED OPERATION TIME
ACCUMULATED OPERATION UNIT NUMBER

US 2005/0151501 A1

FIG. 12

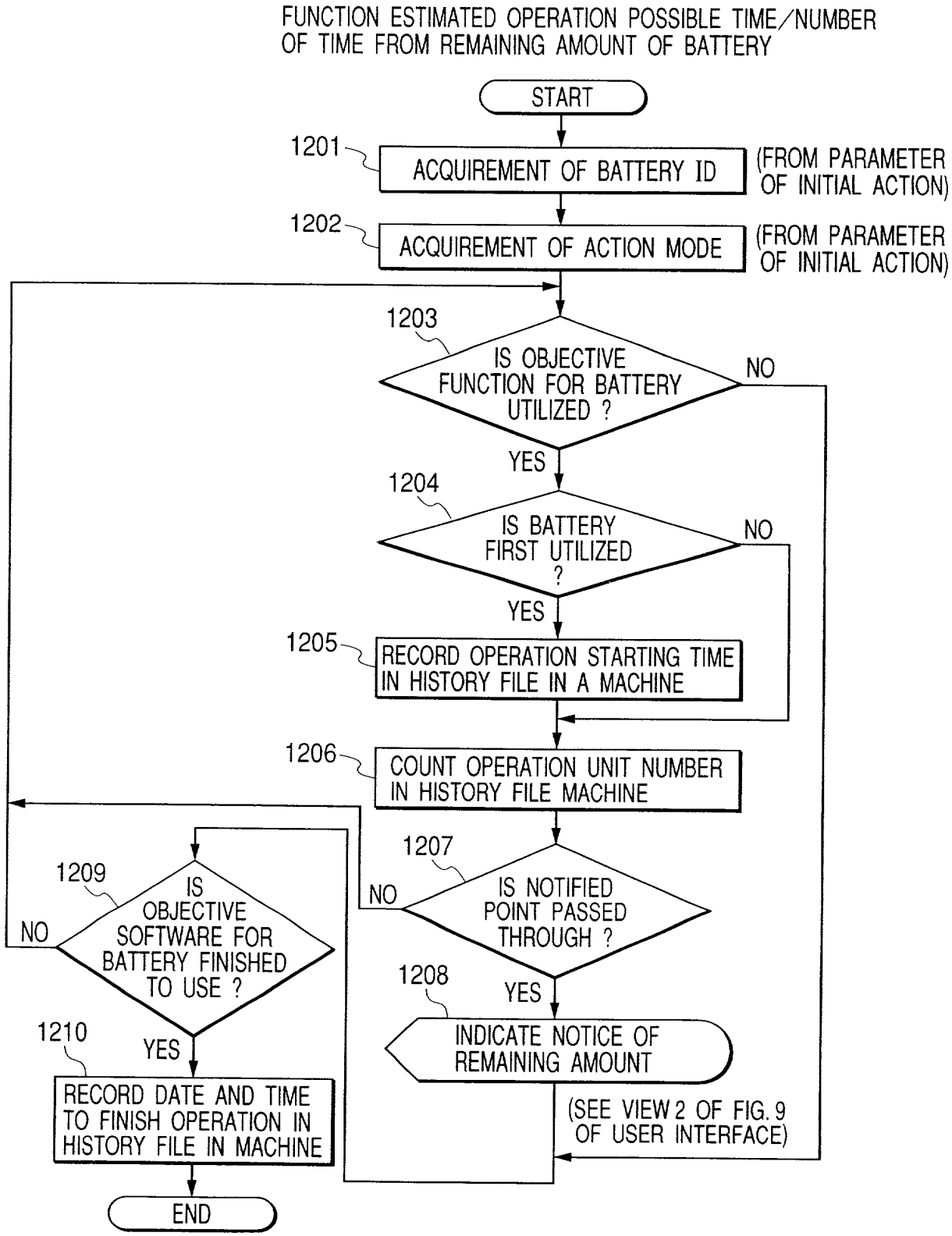


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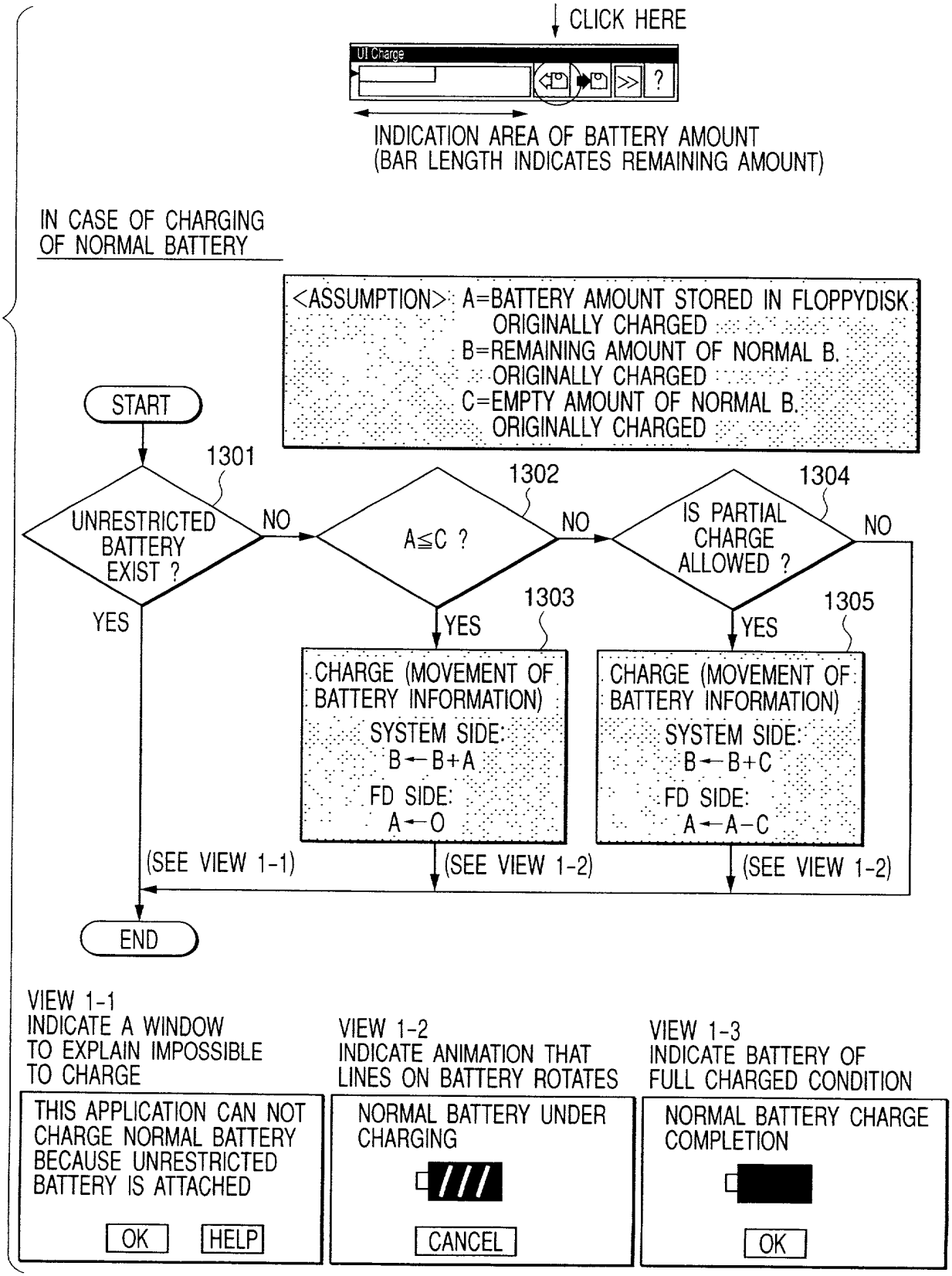
FIG. 13



JP2001-051768

FIG. 14

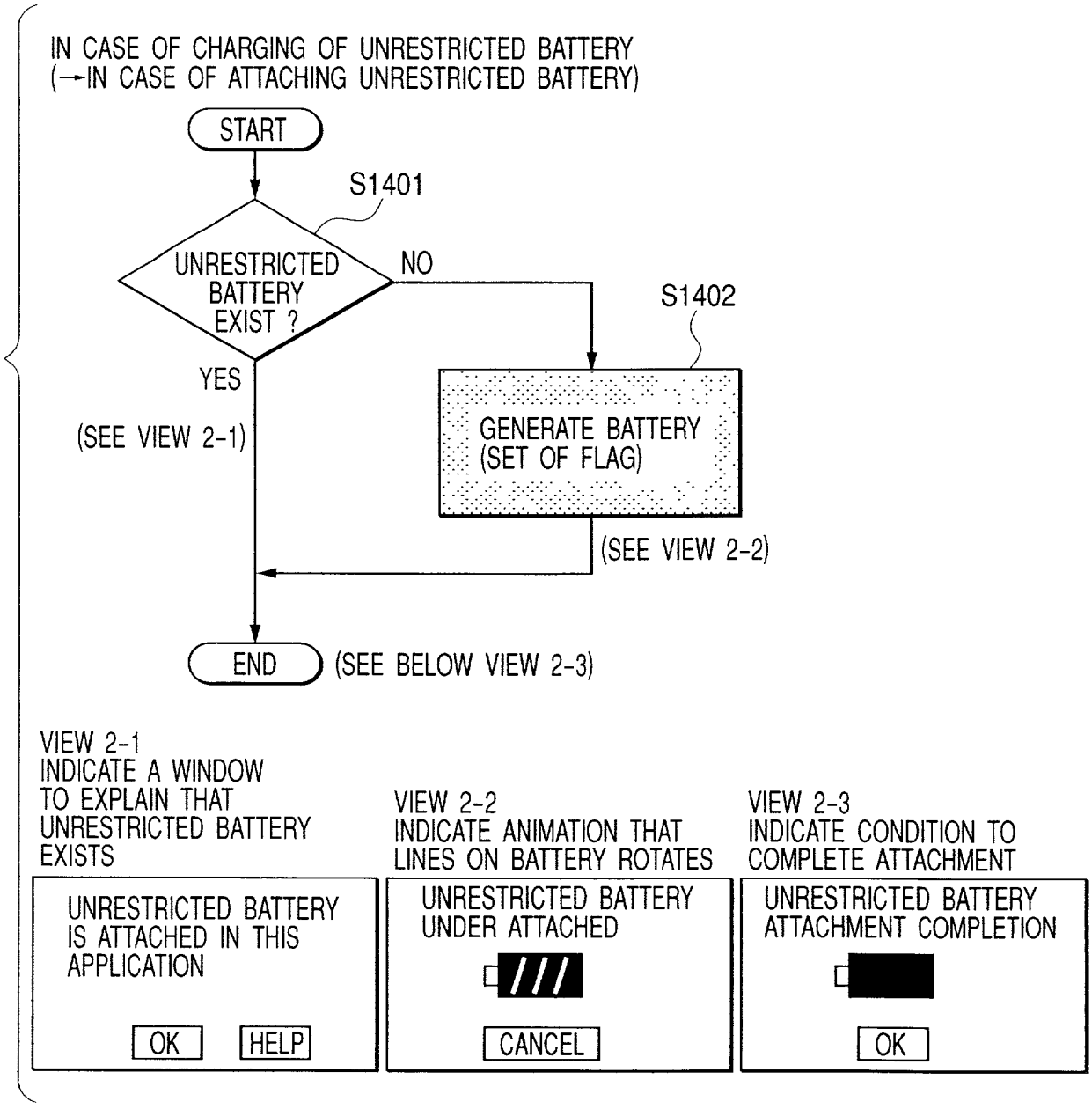

IN CASE OF CHARGING OF UNRESTRICTED BATTERY
(→IN CASE OF ATTACHING UNRESTRICTED BATTERY)
START
S1401
UNRESTRICTED BATTERY EXIST ?
NO
S1402
YES
(SEE VIEW 2-1)
GENERATE BATTERY (SET OF FLAG)
(SEE VIEW 2-2)
END
(SEE BELOW VIEW 2-3)
VIEW 2-1
INDICATE A WINDOW TO EXPLAIN THAT UNRESTRICTED BATTERY EXISTS
UNRESTRICTED BATTERY IS ATTACHED IN THIS APPLICATION
OK
HELP
VIEW 2-2
INDICATE ANIMATION THAT LINES ON BATTERY ROTATES
UNRESTRICTED BATTERY UNDER ATTACHED
CANCEL
VIEW 2-3
INDICATE CONDITION TO COMPLETE ATTACHMENT
UNRESTRICTED BATTERY ATTACHMENT COMPLETION
OK

FIG. 15

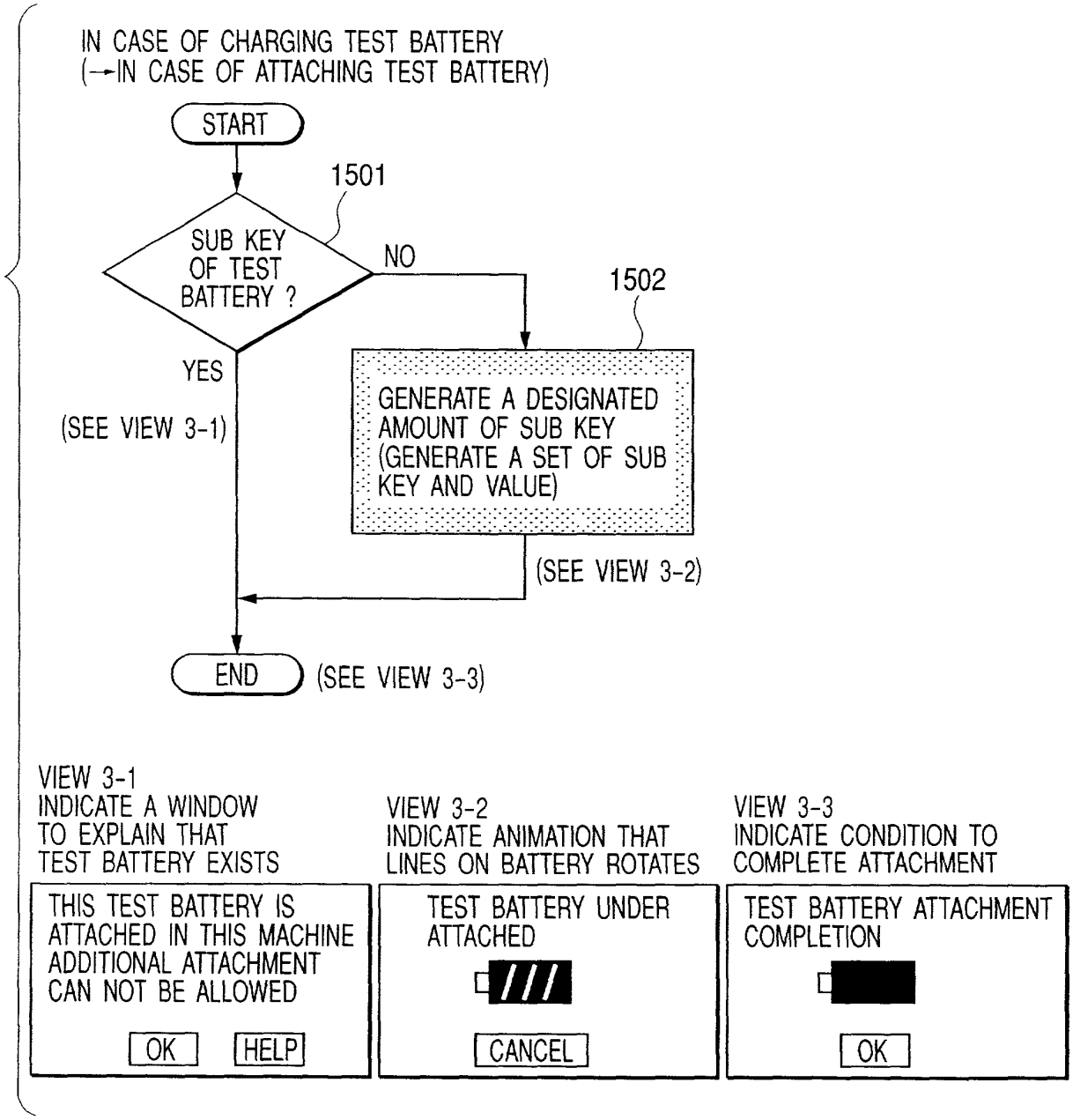

IN CASE OF CHARGING TEST BATTERY
(→IN CASE OF ATTACHING TEST BATTERY)
START
1501
SUB KEY OF TEST BATTERY ?
NO
1502
YES
(SEE VIEW 3-1)
GENERATE A DESIGNATED AMOUNT OF SUB KEY (GENERATE A SET OF SUB KEY AND VALUE)
(SEE VIEW 3-2)
END
(SEE VIEW 3-3)
VIEW 3-1
INDICATE A WINDOW TO EXPLAIN THAT TEST BATTERY EXISTS
THIS TEST BATTERY IS ATTACHED IN THIS MACHINE ADDITIONAL ATTACHMENT CAN NOT BE ALLOWED
OK
HELP
VIEW 3-2
INDICATE ANIMATION THAT LINES ON BATTERY ROTATES
TEST BATTERY UNDER ATTACHED
CANCEL
VIEW 3-3
INDICATE CONDITION TO COMPLETE ATTACHMENT
TEST BATTERY ATTACHMENT COMPLETION
OK

FIG. 16

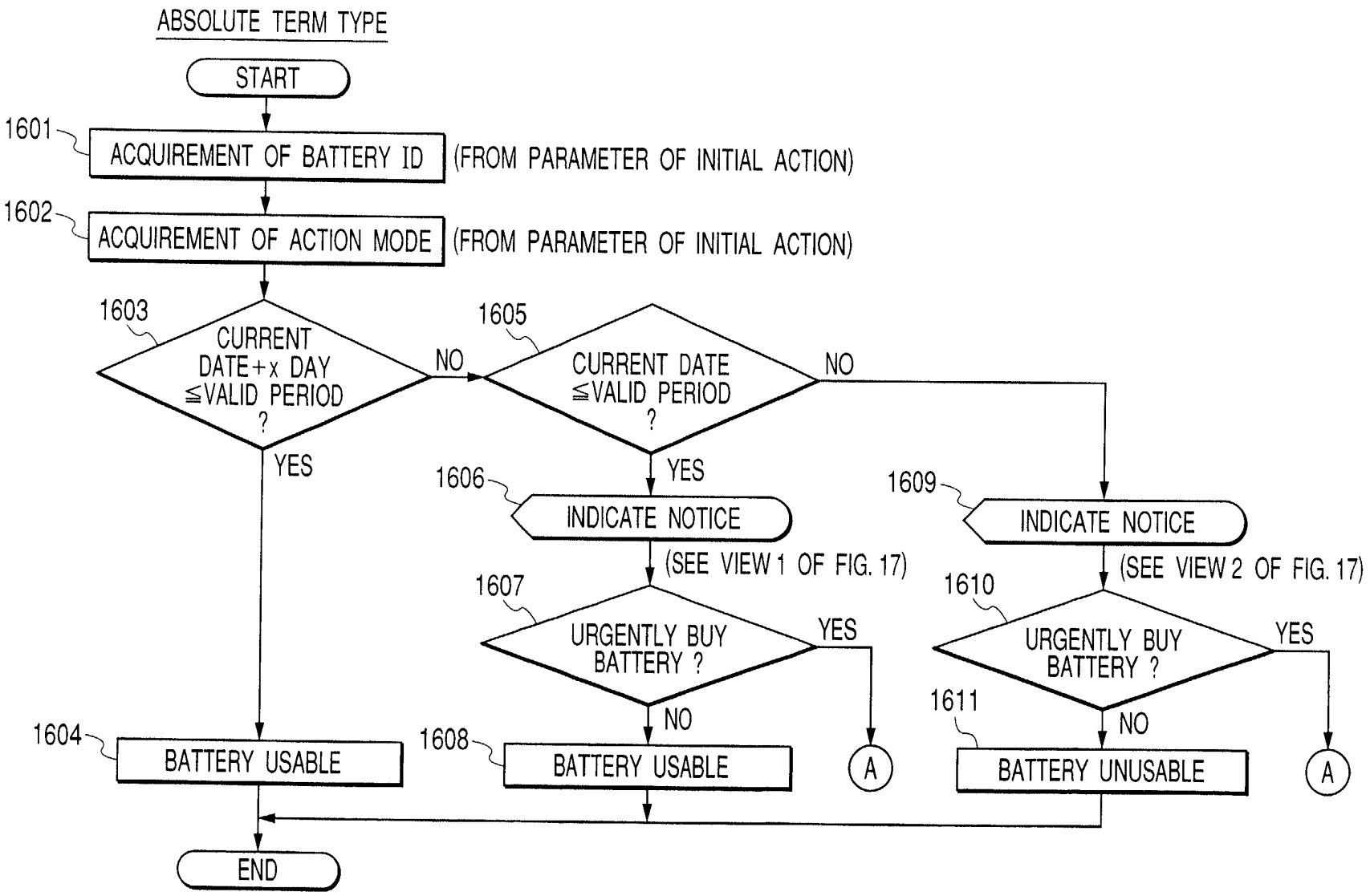

ABSOLUTE TERM TYPE
START
1601
ACQUIREMENT OF BATTERY ID
(FROM PARAMETER OF INITIAL ACTION)
1602
ACQUIREMENT OF ACTION MODE
(FROM PARAMETER OF INITIAL ACTION)
1603
CURRENT DATE+x DAY ≦VALID PERIOD ?
NO
1605
CURRENT DATE ≦VALID PERIOD ?
NO
YES
YES
1606
INDICATE NOTICE
(SEE VIEW 1 OF FIG. 17)
1607
URGENTLY BUY BATTERY ?
YES
NO
1608
BATTERY USABLE
A
1609
INDICATE NOTICE
(SEE VIEW 2 OF FIG. 17)
1610
URGENTLY BUY BATTERY ?
YES
NO
1611
BATTERY UNUSABLE
A
1604
BATTERY USABLE
END

FIG. 17

VIEW 1

INDICATE NOTICE MESSAGE FOR A PERIOD FROM x DAYS BEFORE THE LAST DAY OF VALID PERIOD TO THE LAST DAY

THIS TEST BATTERY CAN NOT BE ALLOWED TO USE BY * *, * *.
BUY BATTERY FROM THE FOLLOWING SITE IF YOU CONTINUE TO USE.
http://www.ucharge.com/battery/

BUY NOW | BUY LATER | HELP

VIEW 2

INDICATE NOTICE MESSAGE AFTER VALID PERIOD

THE PERIOD FOR USE OF THIS TEST BATTERY IS EXPIRED ON * *, * *.
BUY BATTERY FROM THE FOLLOWING SITE IF YOU CONTINUE TO USE.
http://www.ucharge.com/battery/

BUY NOW | BUY LATER | HELP

FIG. 18

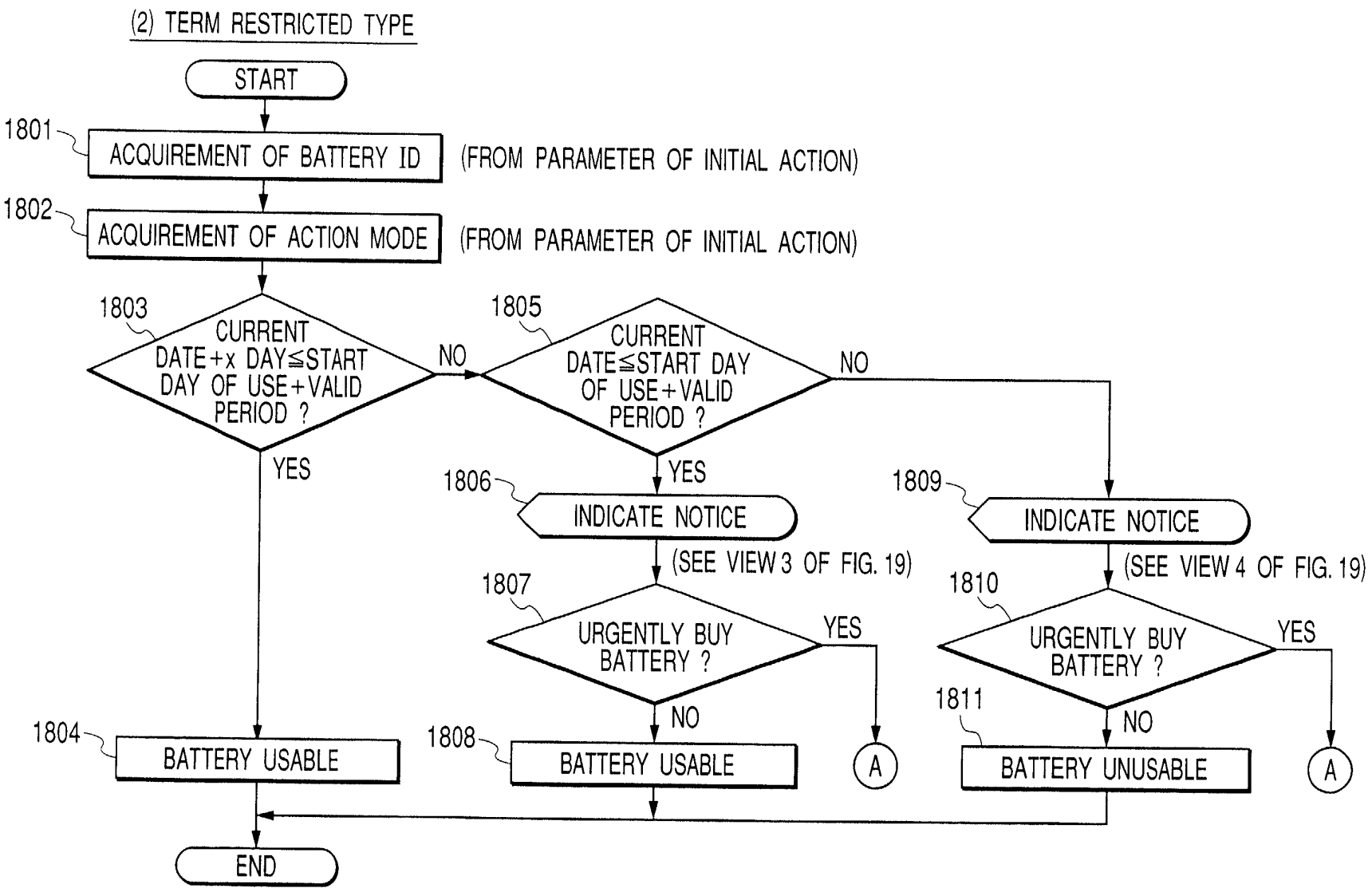

(2) TERM RESTRICTED TYPE
START
1801
ACQUIREMENT OF BATTERY ID
(FROM PARAMETER OF INITIAL ACTION)
1802
ACQUIREMENT OF ACTION MODE
(FROM PARAMETER OF INITIAL ACTION)
1803
CURRENT DATE+x DAY≦START DAY OF USE+VALID PERIOD ?
NO
1805
CURRENT DATE≦START DAY OF USE+VALID PERIOD ?
NO
YES
YES
1806
INDICATE NOTICE
(SEE VIEW 3 OF FIG. 19)
1809
INDICATE NOTICE
(SEE VIEW 4 OF FIG. 19)
1807
URGENTLY BUY BATTERY ?
YES
NO
1810
URGENTLY BUY BATTERY ?
YES
NO
1804
BATTERY USABLE
1808
BATTERY USABLE
1811
BATTERY UNUSABLE
A
A
END

FIG. 19

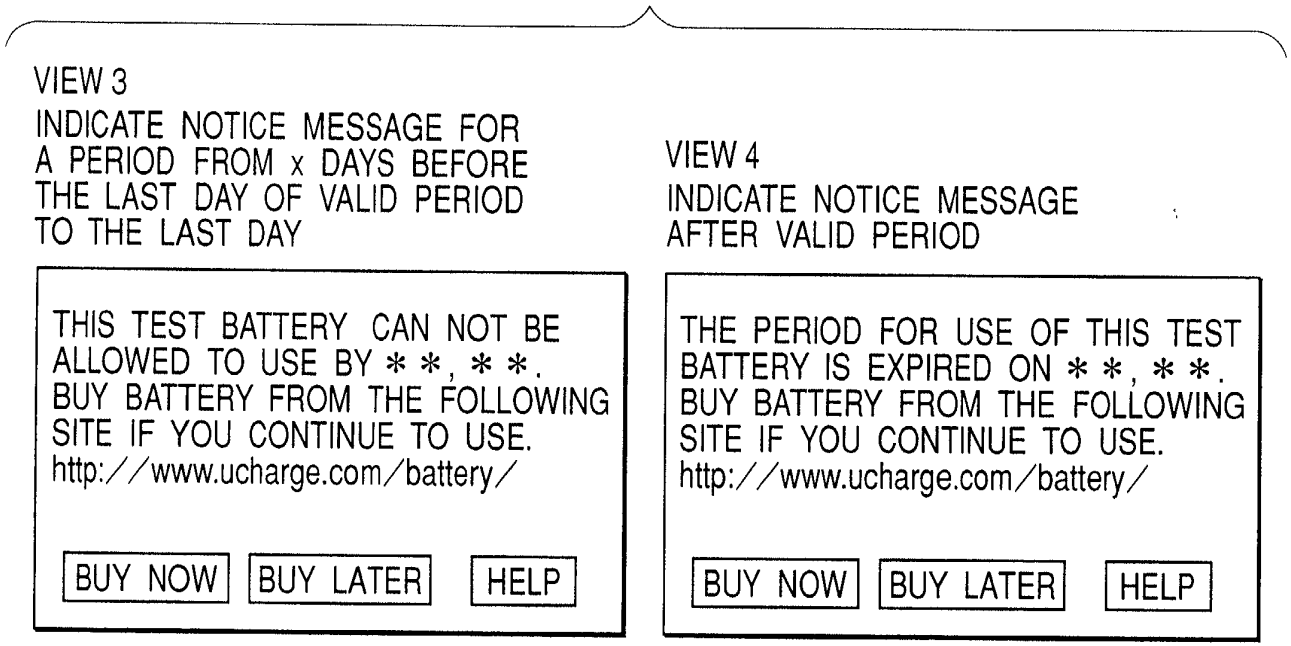

VIEW 3
INDICATE NOTICE MESSAGE FOR A PERIOD FROM x DAYS BEFORE THE LAST DAY OF VALID PERIOD TO THE LAST DAY
THIS TEST BATTERY CAN NOT BE ALLOWED TO USE BY * *, * *.
BUY BATTERY FROM THE FOLLOWING SITE IF YOU CONTINUE TO USE.
http://www.ucharge.com/battery/
BUY NOW
BUY LATER
HELP
VIEW 4
INDICATE NOTICE MESSAGE AFTER VALID PERIOD
THE PERIOD FOR USE OF THIS TEST BATTERY IS EXPIRED ON * *, * *.
BUY BATTERY FROM THE FOLLOWING SITE IF YOU CONTINUE TO USE.
http://www.ucharge.com/battery/
BUY NOW
BUY LATER
HELP

FIG. 20

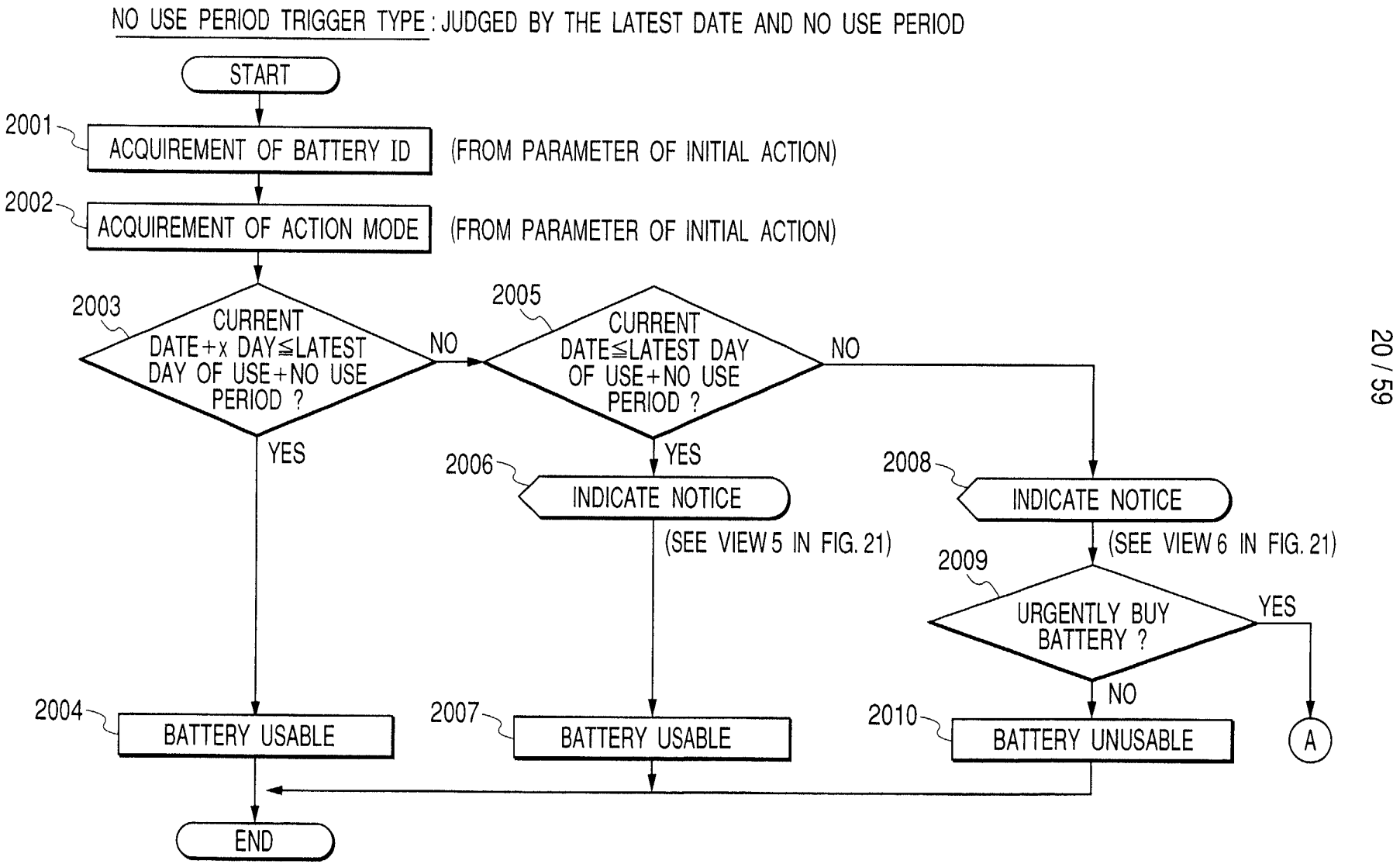

NO USE PERIOD TRIGGER TYPE : JUDGED BY THE LATEST DATE AND NO USE PERIOD
START
2001
ACQUIREMENT OF BATTERY ID
(FROM PARAMETER OF INITIAL ACTION)
2002
ACQUIREMENT OF ACTION MODE
(FROM PARAMETER OF INITIAL ACTION)
2003
CURRENT DATE+x DAY≦LATEST DAY OF USE+NO USE PERIOD ?
NO
2005
CURRENT DATE≦LATEST DAY OF USE+NO USE PERIOD ?
NO
YES
YES
2006
INDICATE NOTICE
(SEE VIEW 5 IN FIG. 21)
2008
INDICATE NOTICE
(SEE VIEW 6 IN FIG. 21)
2009
URGENTLY BUY BATTERY ?
YES
NO
2004
BATTERY USABLE
2007
BATTERY USABLE
2010
BATTERY UNUSABLE
A
END

FIG. 21

VIEW 5

INDICATE NOTICE MESSAGE FOR A PERIOD FROM x DAYS BEFORE THE LAST DAY OF VALID PERIOD TO THE LAST DAY

THIS TEST BATTERY HAS NOT BEEN USED FOR THE LAST * * MONTHS.
THIS BATTERY WILL BE INVALID IF IT WILL NOT BE USED FOR ANOTHER * * DAYS.

CLOSE HELP

VIEW 6

INDICATE NOTICE MESSAGE AFTER NOT USED PERIOD

THIS TEST BATTERY IS INVALID BECAUSE IT HAS NOT BEEN USED FOR THE LAST * * MONTHS.
BUY BATTERY FROM THE FOLLOWING SITE IF YOU CONTINUE TO USE.
http://www.ucharge.com/battery/

BUY NOW BUY LATER HELP

FIG. 22

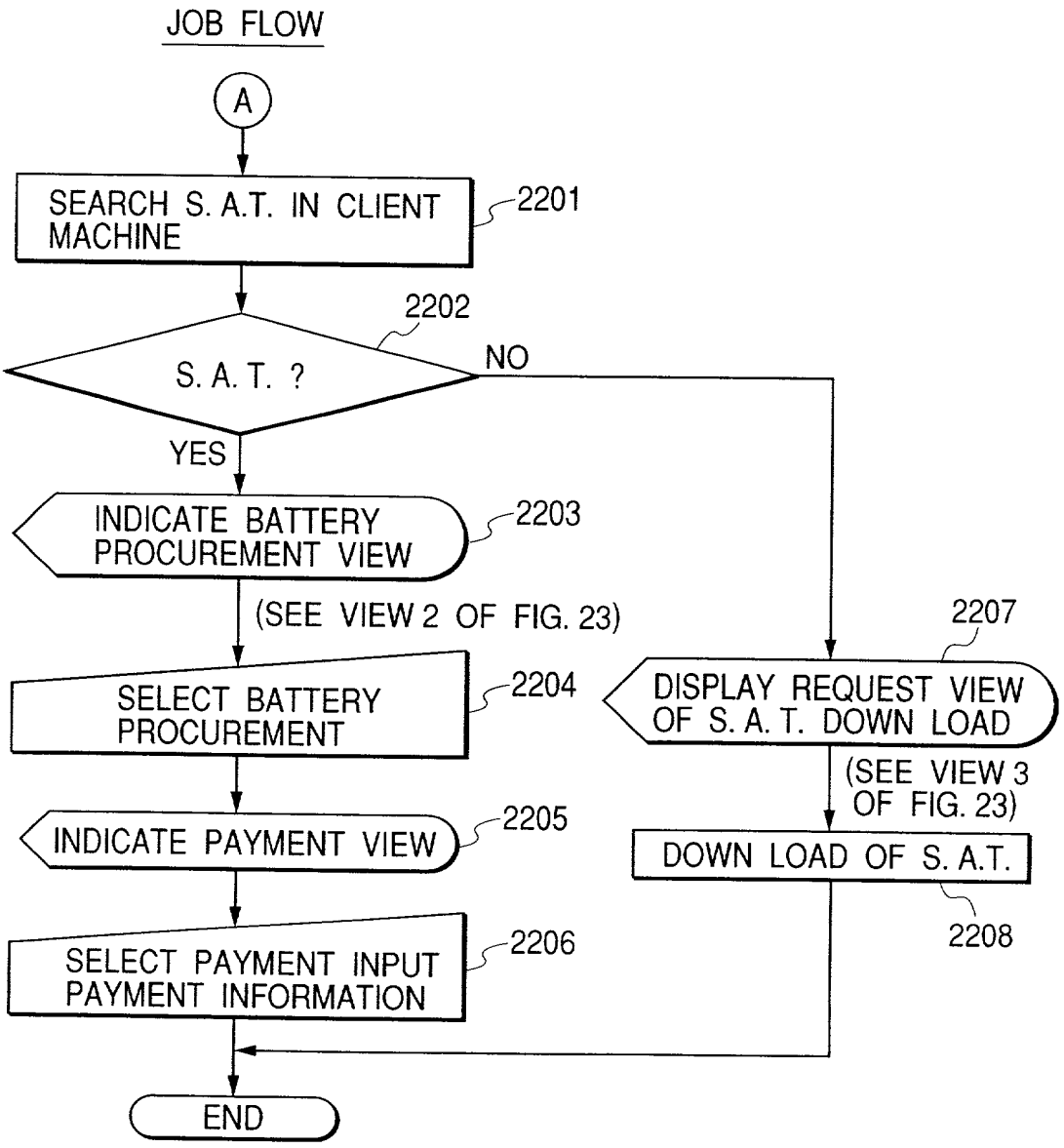
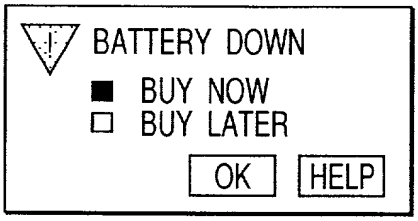
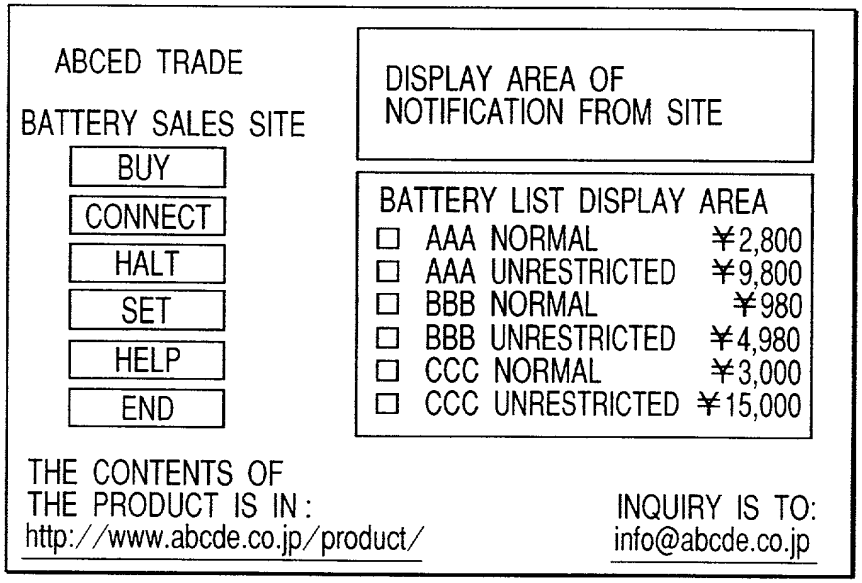

JOB FLOW
A
SEARCH S. A.T. IN CLIENT MACHINE
2201
2202
S. A. T. ?
NO
YES
INDICATE BATTERY PROCUREMENT VIEW
2203
(SEE VIEW 2 OF FIG. 23)
SELECT BATTERY PROCUREMENT
2204
INDICATE PAYMENT VIEW
2205
SELECT PAYMENT INPUT PAYMENT INFORMATION
2206
END
2207
DISPLAY REQUEST VIEW OF S. A. T. DOWN LOAD
(SEE VIEW 3 OF FIG. 23)
DOWN LOAD OF S. A.T.
2208

FIG. 23

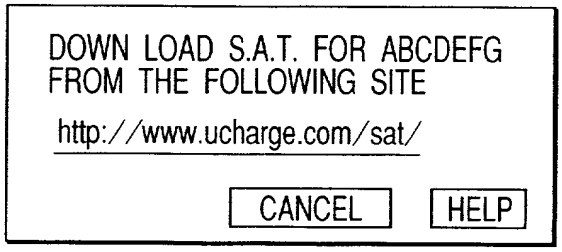
VIEW 1
VIEW TO NOTIFY THAT REMAINING AMOUNT OF BATTERY IS 0



VIEW 2
S.A.T. VIEW



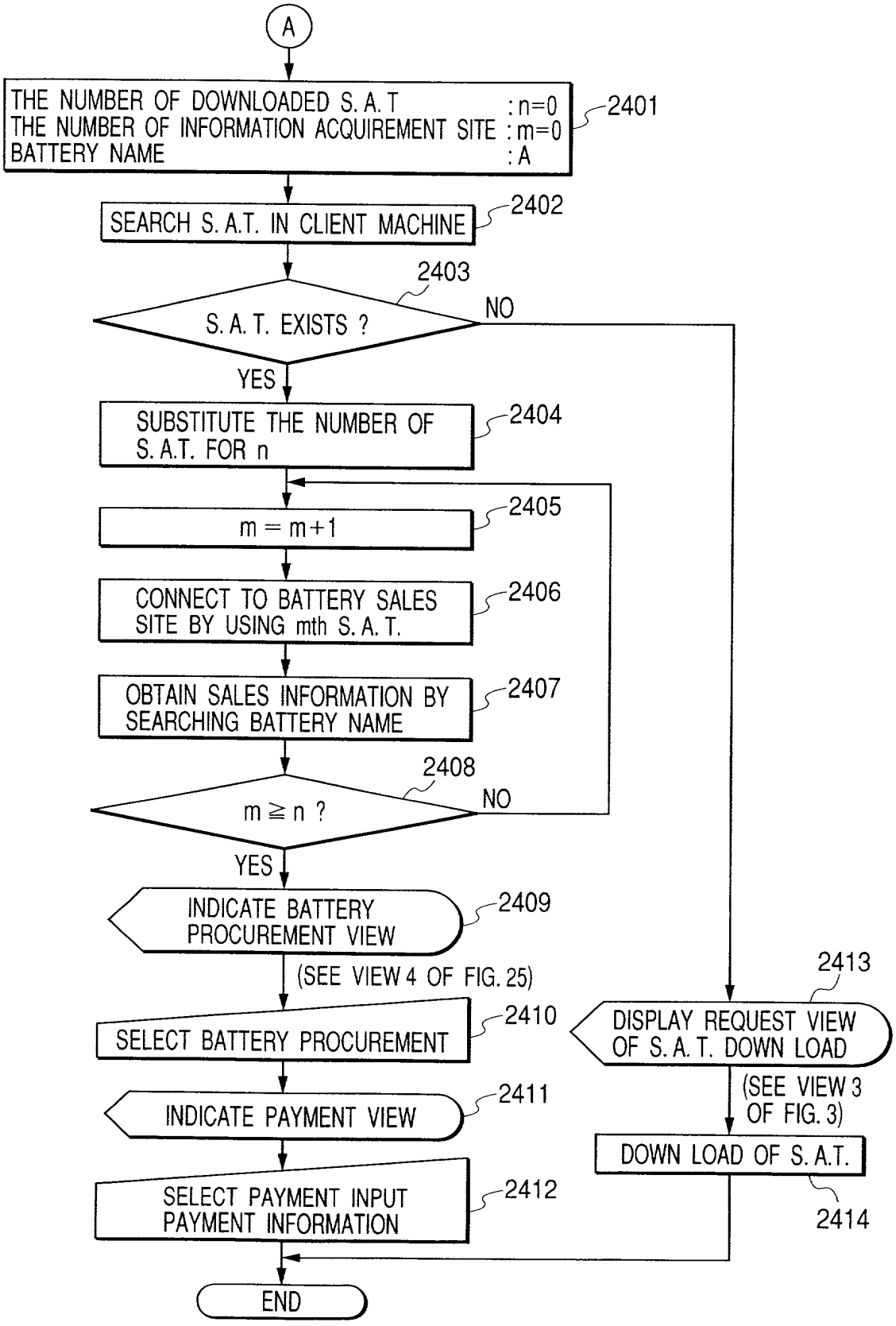
VIEW 3
REQUEST VIEW OF S.A.T. DOWN LOAD



US 2004/0155962 A1

JOB FLOW

FIG. 24



US 2005/0154665 A1

0852605.052601

FIG. 25

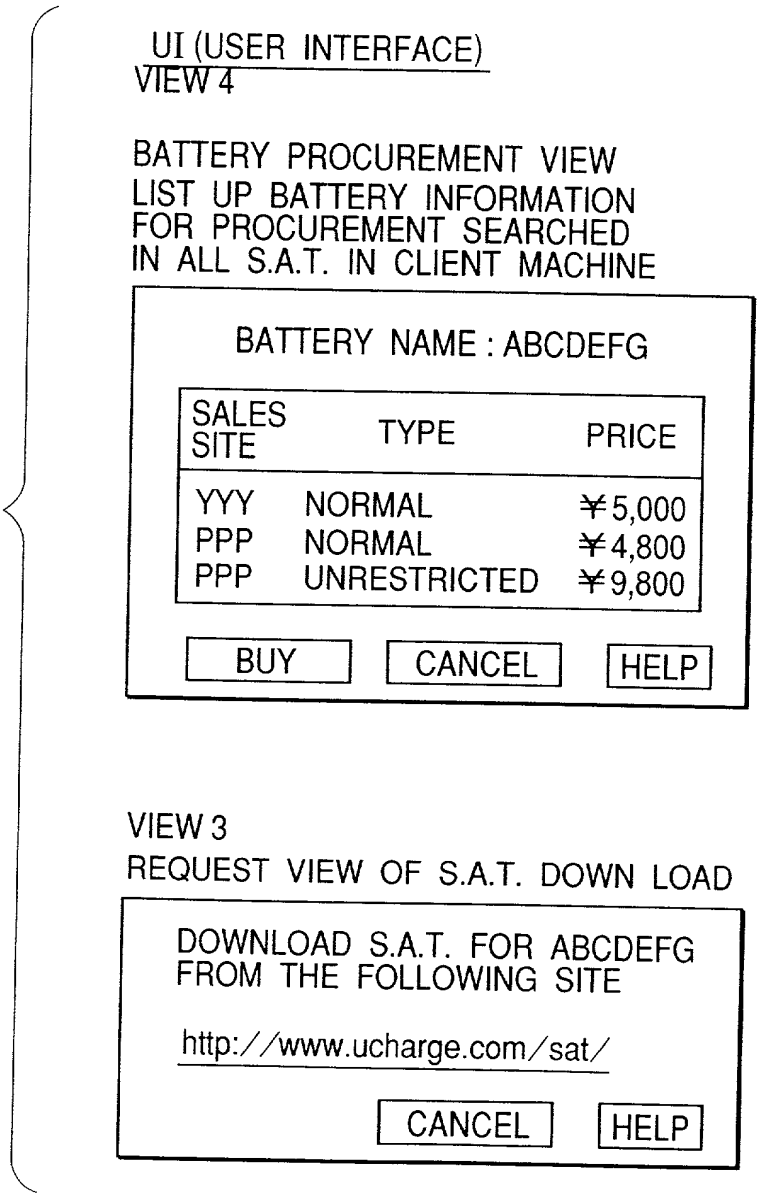
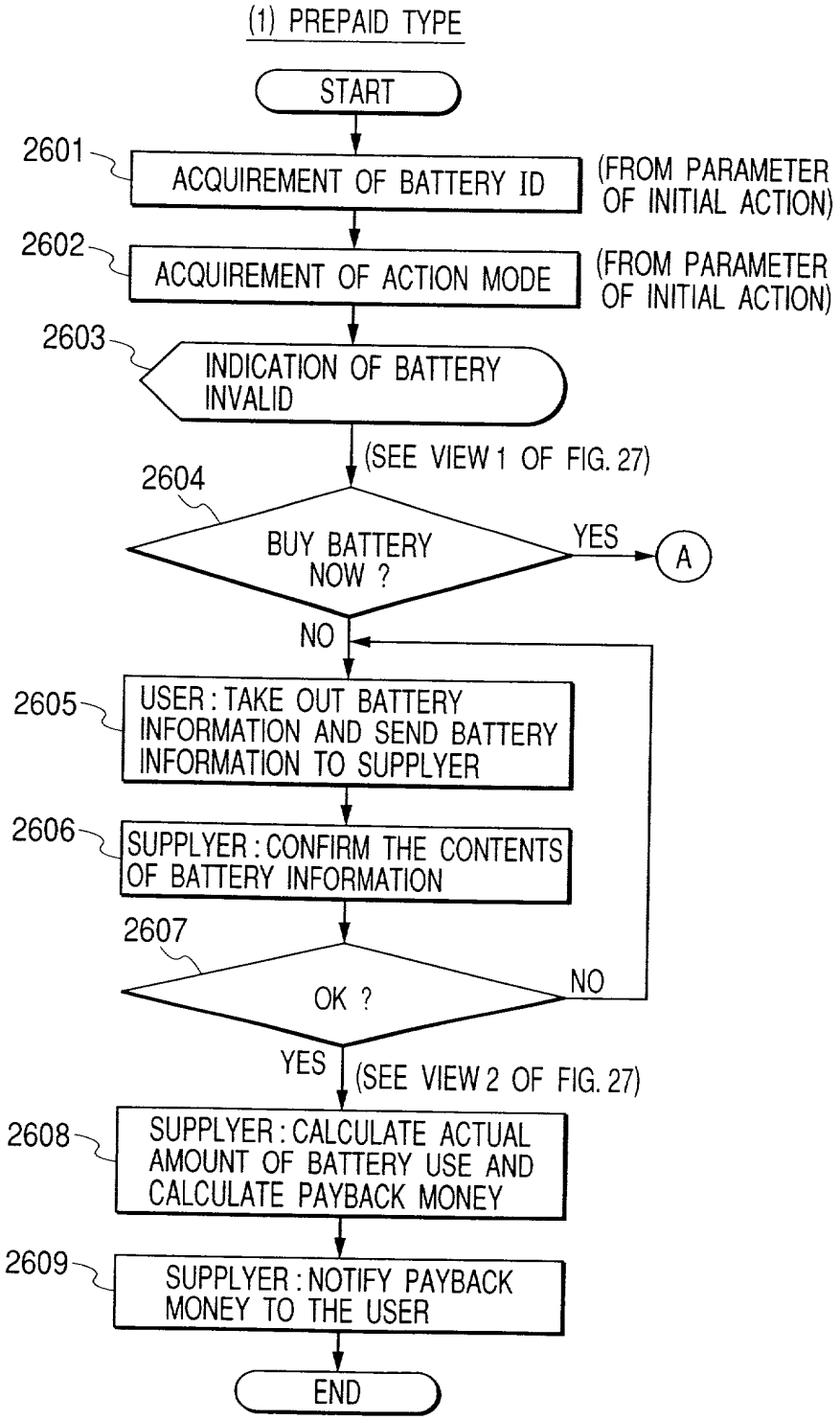


FIG. 26

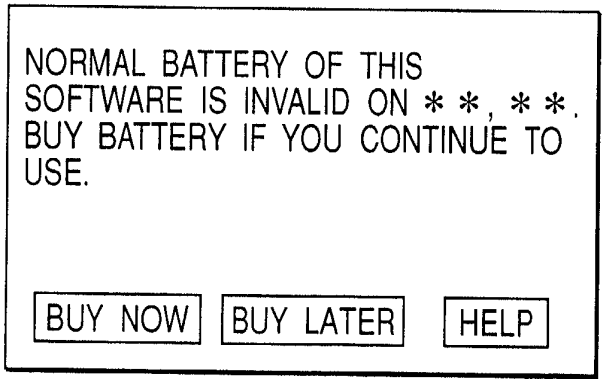


US 7,054,850 B2

FIG. 27

VIEW 1

DISPLAY A MESSAGE TO NOTIFY THAT NORMAL BATTERY IS INVALID



VIEW 2

DISPLAY NOTIFICATION MESSAGE TO SUPPLYE'S MACHINE IN CASE THAT CONTENTS HAS ABNORMAL BY CONFIRMING OF BATTERY INFORMATION. DISPLAY ERROR CODE BY CLICKING "DETAIL"

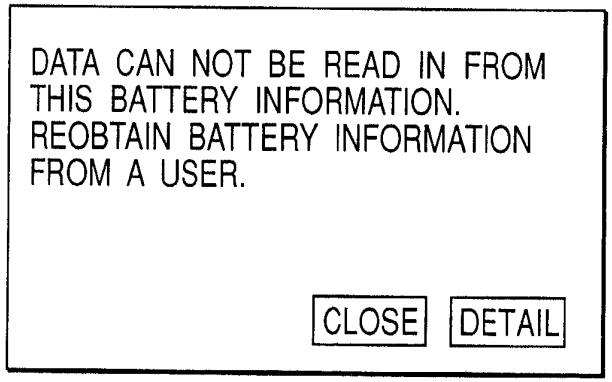


FIG. 28

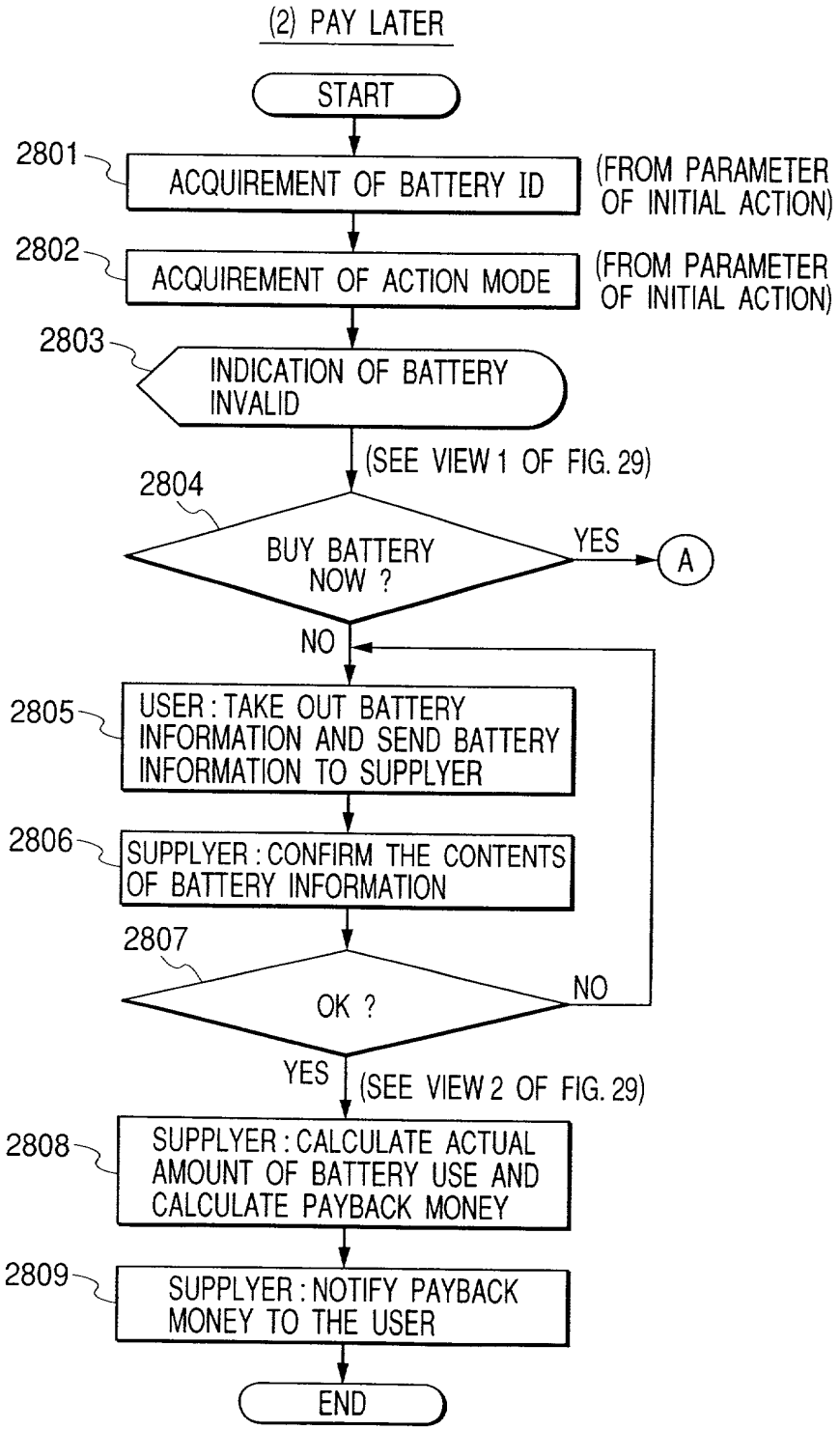
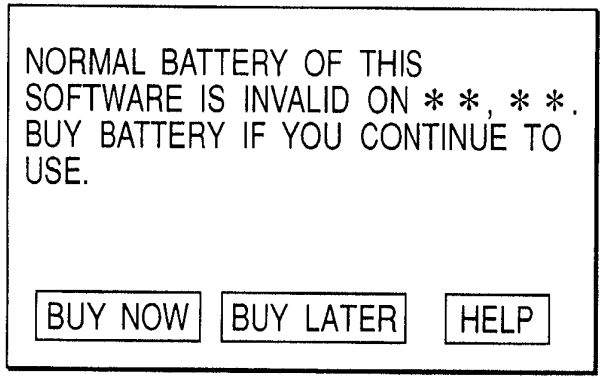

(2) PAY LATER
START
2801
ACQUIREMENT OF BATTERY ID
(FROM PARAMETER OF INITIAL ACTION)
2802
ACQUIREMENT OF ACTION MODE
(FROM PARAMETER OF INITIAL ACTION)
2803
INDICATION OF BATTERY INVALID
(SEE VIEW 1 OF FIG. 29)
2804
BUY BATTERY NOW ?
YES
A
NO
2805
USER : TAKE OUT BATTERY INFORMATION AND SEND BATTERY INFORMATION TO SUPPLYER
2806
SUPPLYER : CONFIRM THE CONTENTS OF BATTERY INFORMATION
2807
OK ?
NO
YES
(SEE VIEW 2 OF FIG. 29)
2808
SUPPLYER : CALCULATE ACTUAL AMOUNT OF BATTERY USE AND CALCULATE PAYBACK MONEY
2809
SUPPLYER : NOTIFY PAYBACK MONEY TO THE USER
END

FIG. 29

VIEW 1

DISPLAY A MESSAGE TO NOTIFY THAT NORMAL BATTERY IS INVALID



VIEW 2

DISPLAY NOTIFICATION MESSAGE TO SUPPLYE'S MACHINE IN CASE THAT CONTENTS HAS ABNORMAL BY CONFIRMING OF BATTERY INFORMATION. DISPLAY ERROR CODE BY CLICKING "DETAIL"

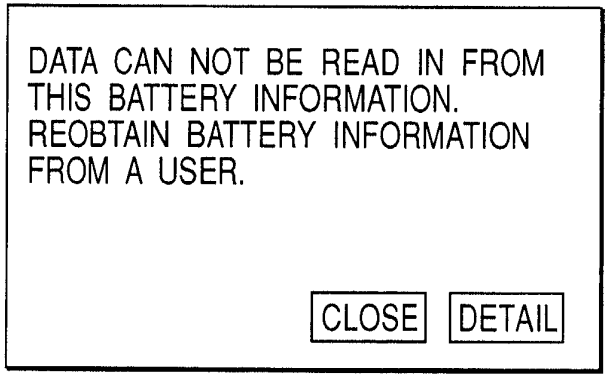


FIG. 30

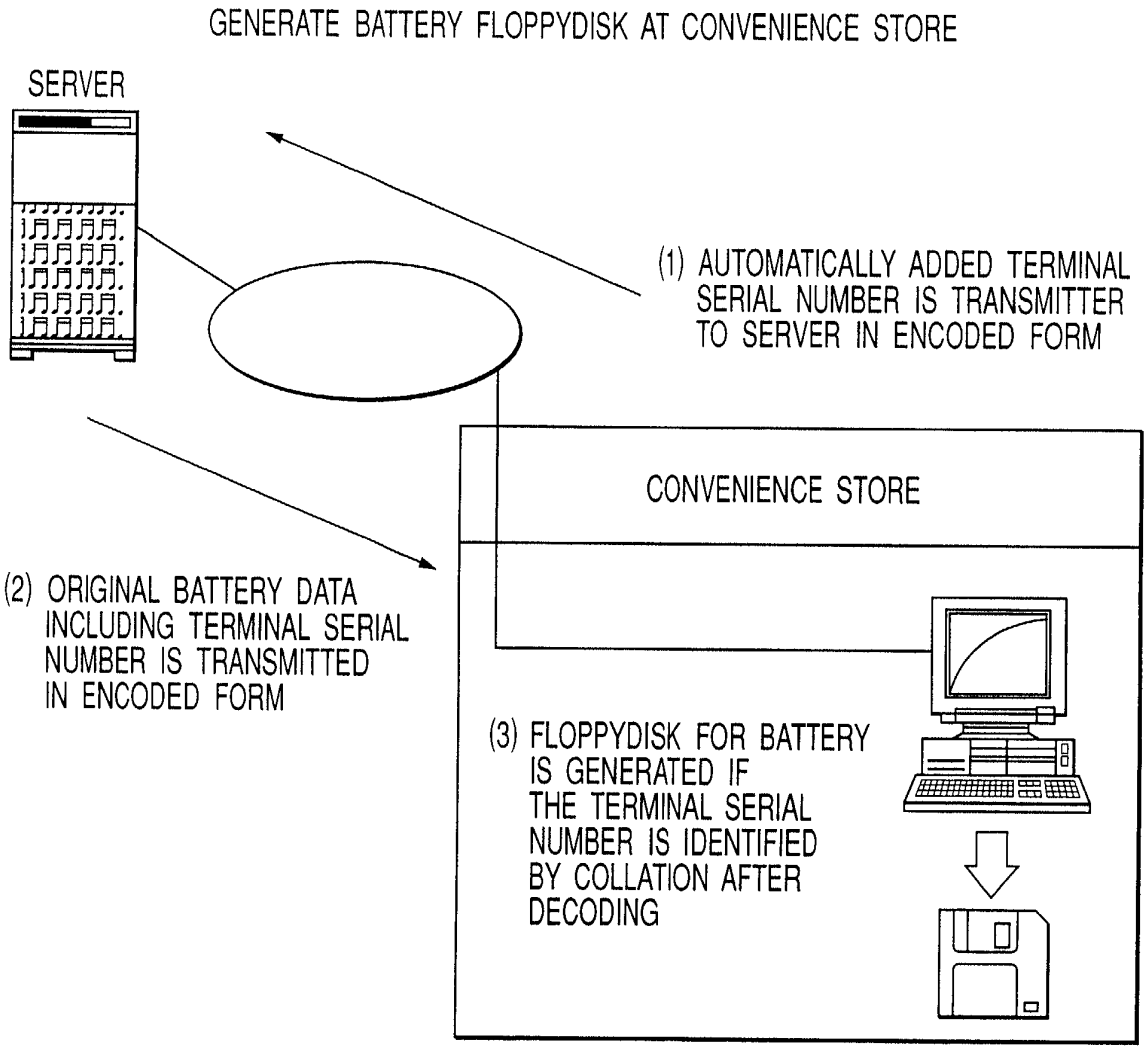

GENERATE BATTERY FLOPPYDISK AT CONVENIENCE STORE
SERVER
(1) AUTOMATICALLY ADDED TERMINAL SERIAL NUMBER IS TRANSMITTER TO SERVER IN ENCODED FORM
CONVENIENCE STORE
(2) ORIGINAL BATTERY DATA INCLUDING TERMINAL SERIAL NUMBER IS TRANSMITTED IN ENCODED FORM
(3) FLOPPYDISK FOR BATTERY IS GENERATED IF THE TERMINAL SERIAL NUMBER IS IDENTIFIED BY COLLATION AFTER DECODING

FIG. 31

INITIAL DATA TRANSMITTED FROM TERMINAL TO SERVER

APPLICATION TYPE CODE	CATEGORY FOR PAYMENT	NAME	(CREDIT CARD NO.)	(VALID PERIOD)

APPLICATION TYPE CODE	CATEGORY FOR PAYMENT	(BLANK)	(PREPAID CARD NO.)	(BLANK)

APPLICATION TYPE CODE	SERIAL NO. FOR TRIAL USE	CATEGORY FOR PAYMENT	NAME	(CREDIT CARD NO.)	(VALID PERIOD)

TERMINAL SERIAL NO. TABLE

TERMINAL SERIAL NO.	MAC ADDRESS OF LAN ADAPTER (OR TERMINAL IP ADDRESS)

ORIGINAL BATTERY DATA (ENCODED)

TERMINAL SERIAL NO.	APPLICATION TYPE CODE	KEY CODE

ORIGINAL BATTERY DATA (ENCODED)

APPLICATION TYPE CODE	KEY CODE

JP2004-054556-A 2004.02.19

FIG. 32

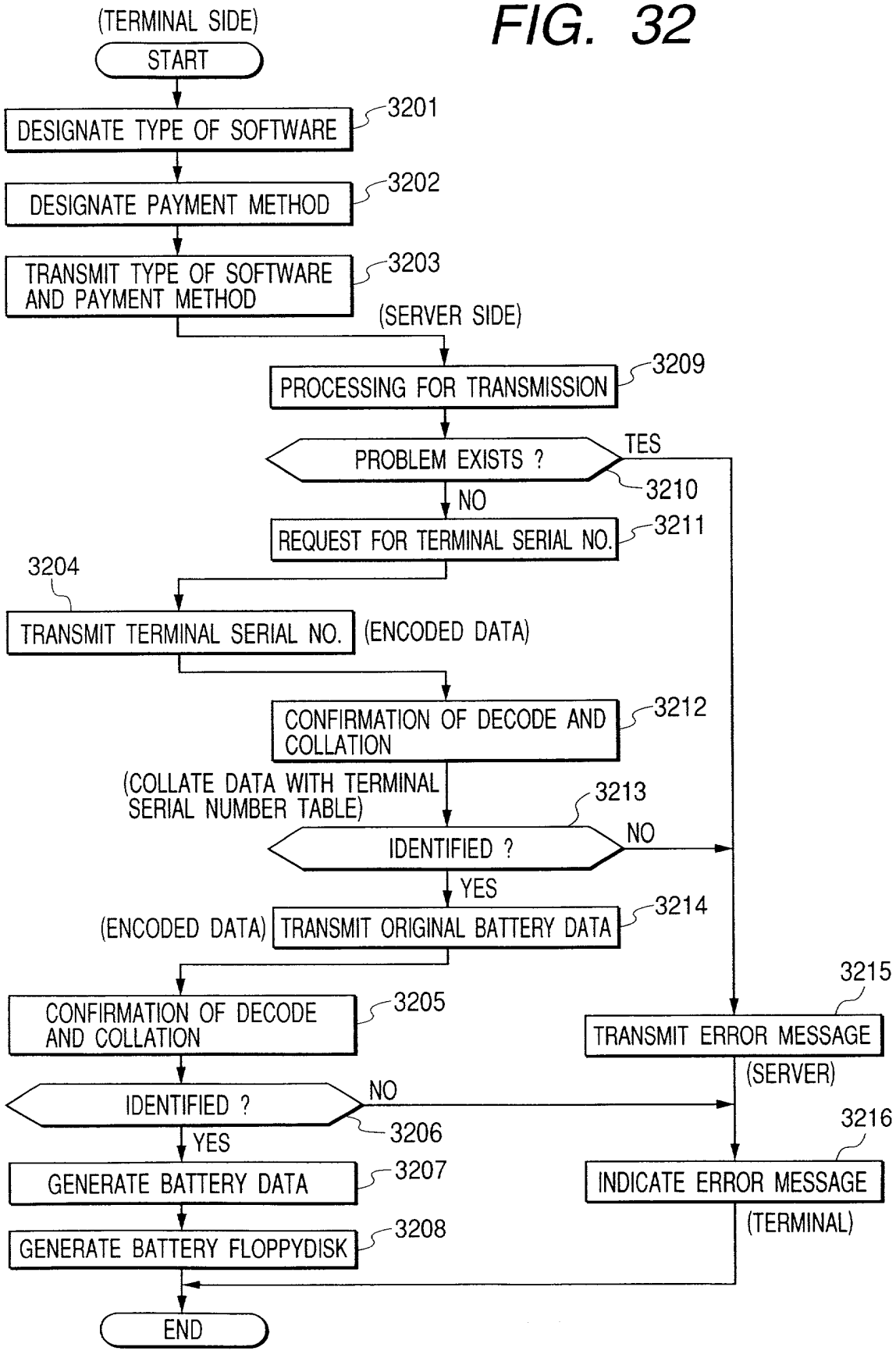

(TERMINAL SIDE)
START
DESIGNATE TYPE OF SOFTWARE
3201
DESIGNATE PAYMENT METHOD
3202
TRANSMIT TYPE OF SOFTWARE AND PAYMENT METHOD
3203
(SERVER SIDE)
PROCESSING FOR TRANSMISSION
3209
PROBLEM EXISTS ?
TES
3210
NO
REQUEST FOR TERMINAL SERIAL NO.
3211
3204
TRANSMIT TERMINAL SERIAL NO.
(ENCODED DATA)
CONFIRMATION OF DECODE AND COLLATION
3212
(COLLATE DATA WITH TERMINAL SERIAL NUMBER TABLE)
3213
IDENTIFIED ?
NO
YES
(ENCODED DATA)
TRANSMIT ORIGINAL BATTERY DATA
3214
3215
CONFIRMATION OF DECODE AND COLLATION
3205
TRANSMIT ERROR MESSAGE
(SERVER)
IDENTIFIED ?
NO
3206
YES
3216
GENERATE BATTERY DATA
3207
INDICATE ERROR MESSAGE
(TERMINAL)
GENERATE BATTERY FLOPPYDISK
3208
END

FIG. 33

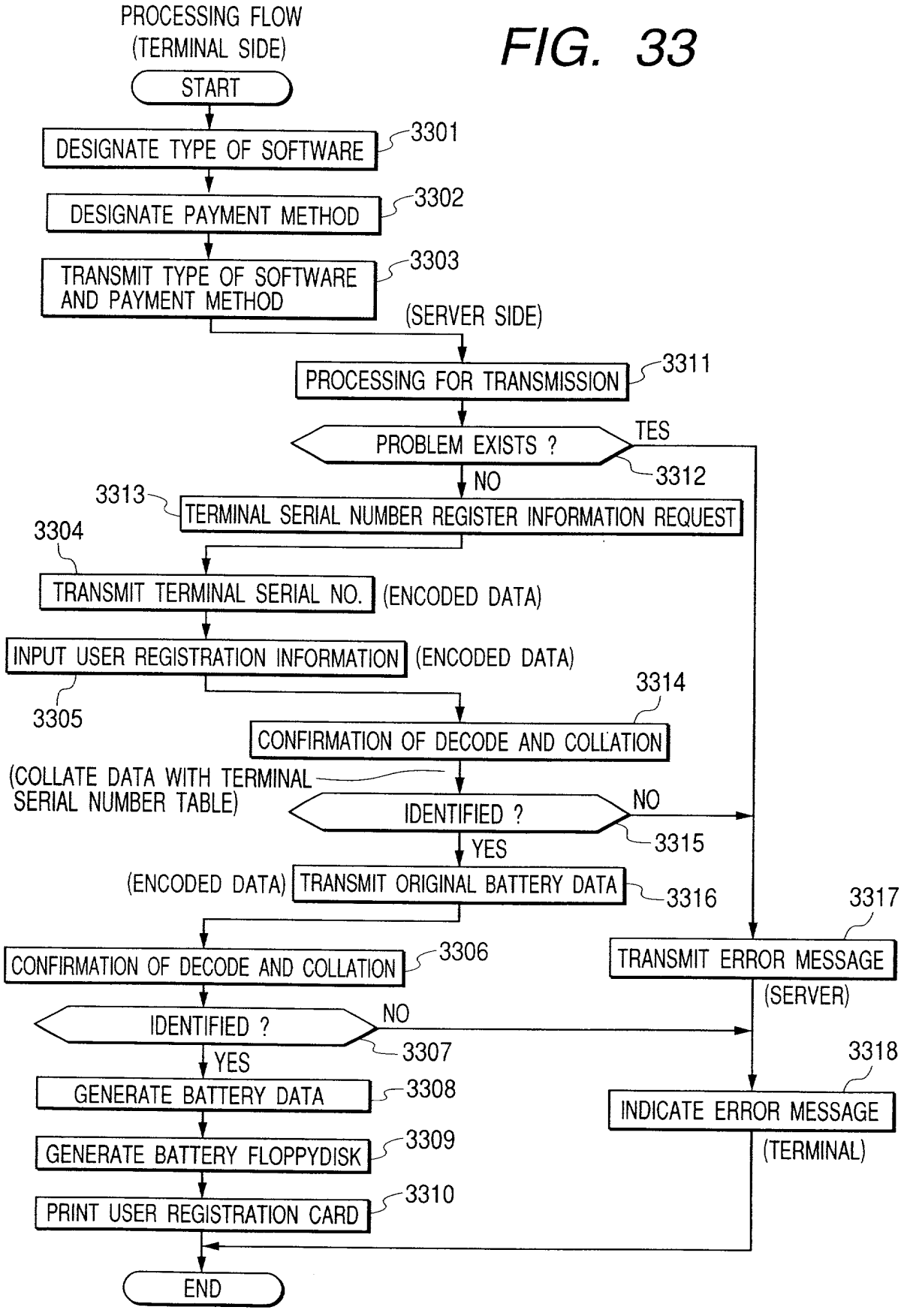

PROCESSING FLOW
(TERMINAL SIDE)
START
DESIGNATE TYPE OF SOFTWARE
3301
DESIGNATE PAYMENT METHOD
3302
TRANSMIT TYPE OF SOFTWARE AND PAYMENT METHOD
3303
(SERVER SIDE)
PROCESSING FOR TRANSMISSION
3311
PROBLEM EXISTS ?
TES
3312
NO
3313
TERMINAL SERIAL NUMBER REGISTER INFORMATION REQUEST
3304
TRANSMIT TERMINAL SERIAL NO.
(ENCODED DATA)
INPUT USER REGISTRATION INFORMATION
(ENCODED DATA)
3305
3314
CONFIRMATION OF DECODE AND COLLATION
(COLLATE DATA WITH TERMINAL SERIAL NUMBER TABLE)
IDENTIFIED ?
NO
3315
YES
(ENCODED DATA)
TRANSMIT ORIGINAL BATTERY DATA
3316
3317
CONFIRMATION OF DECODE AND COLLATION
3306
TRANSMIT ERROR MESSAGE
(SERVER)
IDENTIFIED ?
NO
3307
YES
3318
GENERATE BATTERY DATA
3308
INDICATE ERROR MESSAGE
(TERMINAL)
GENERATE BATTERY FLOPPYDISK
3309
PRINT USER REGISTRATION CARD
3310
END

FIG. 34

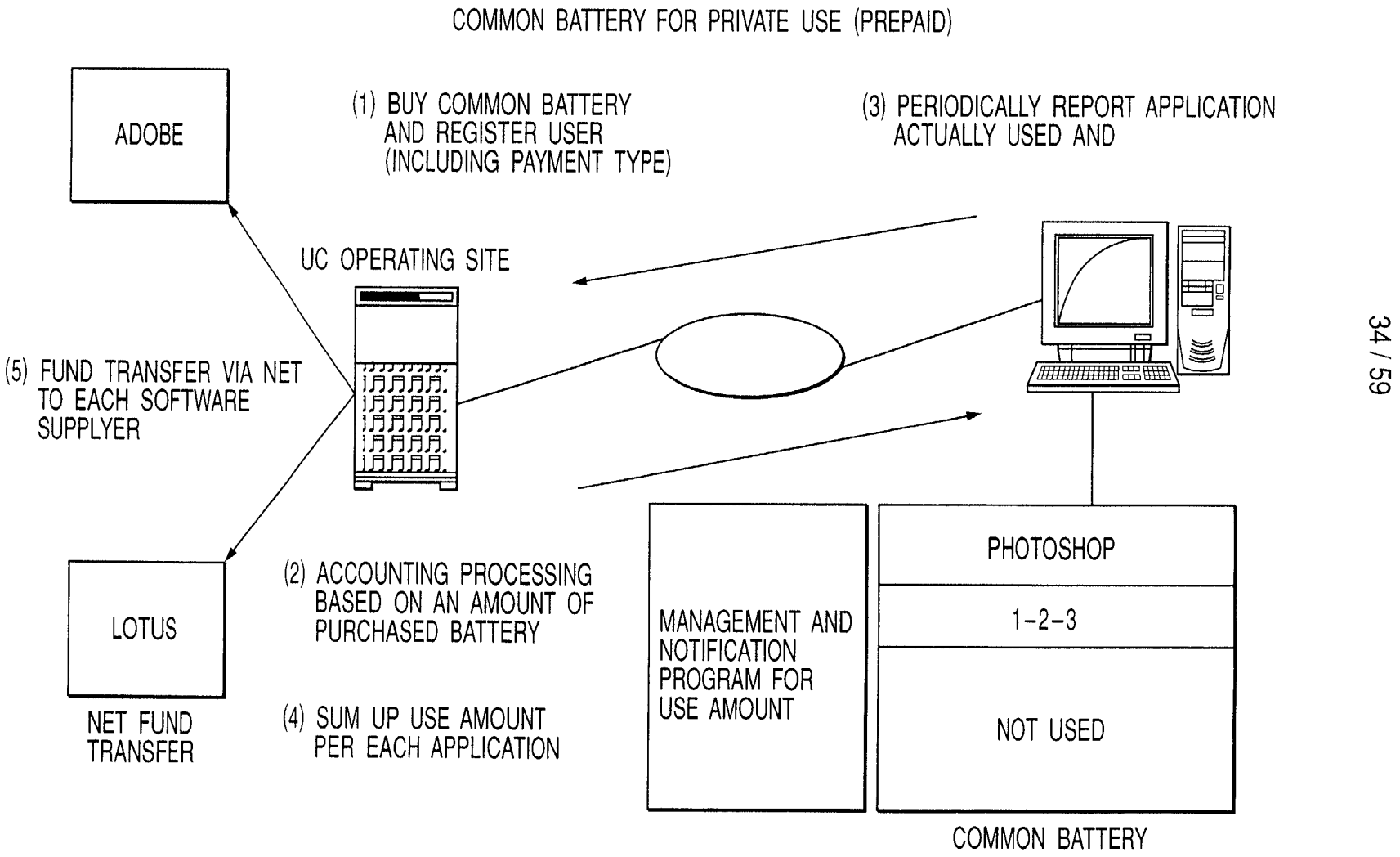
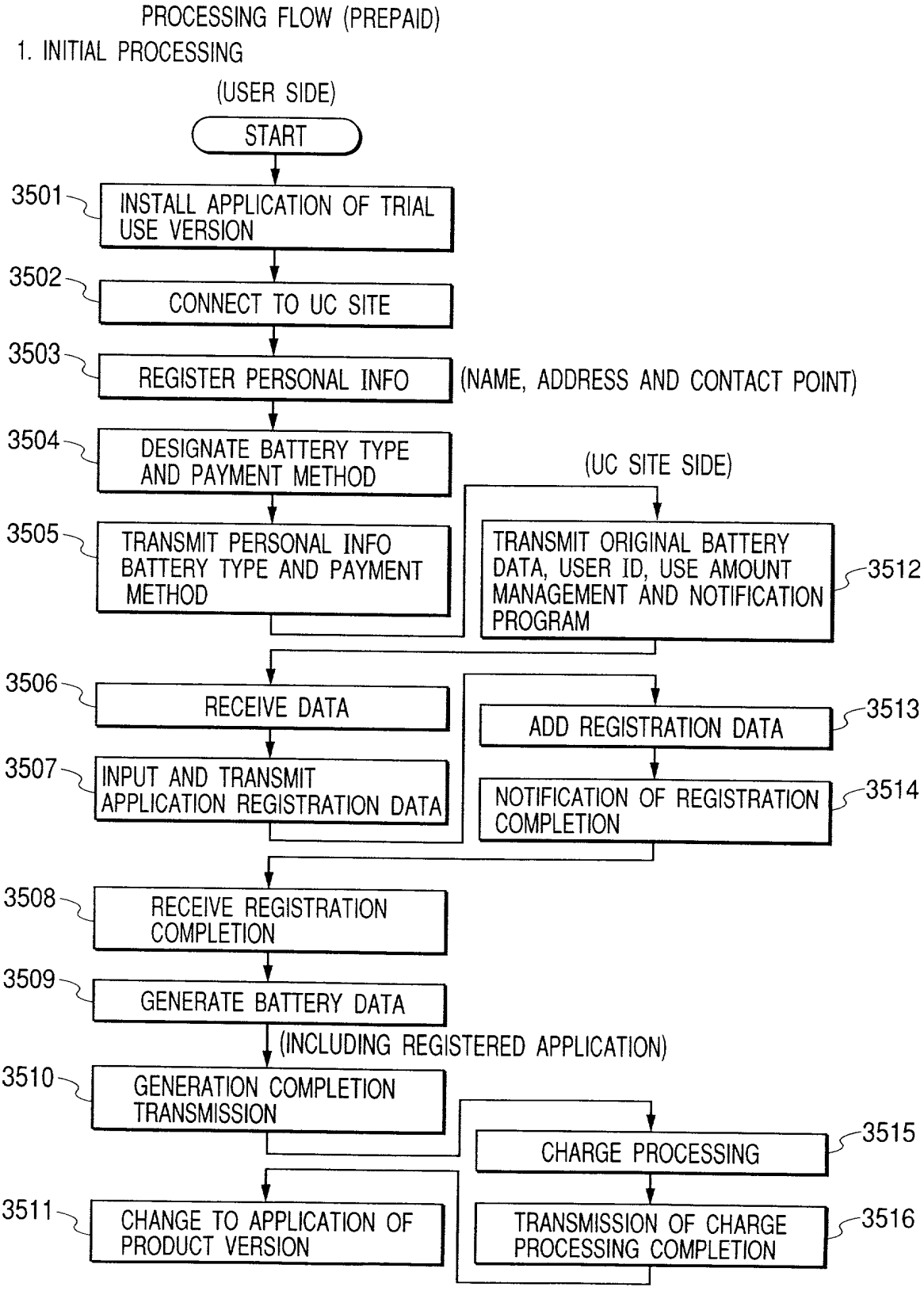
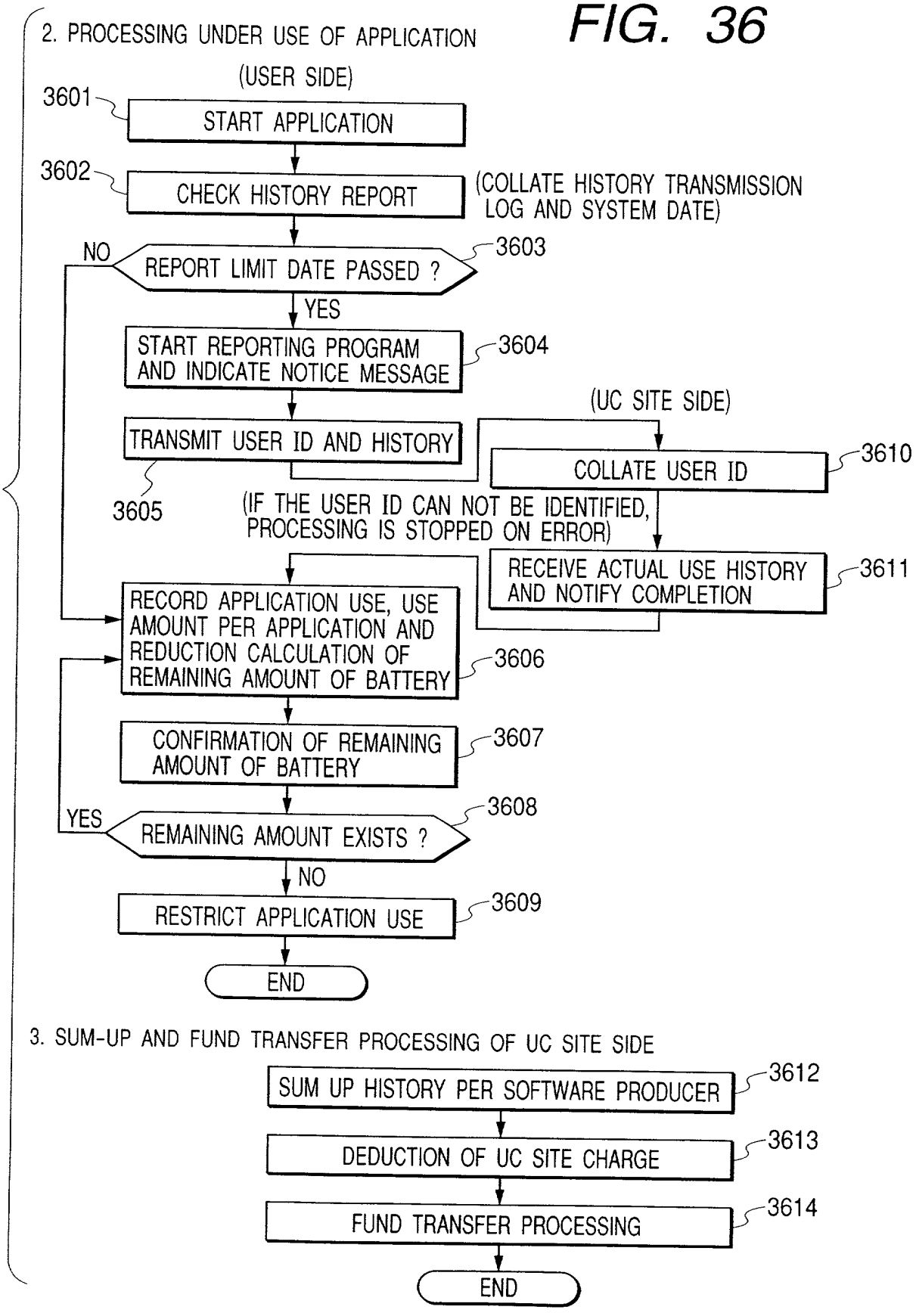

COMMON BATTERY FOR PRIVATE USE (PREPAID)
ADOBE
(1) BUY COMMON BATTERY AND REGISTER USER (INCLUDING PAYMENT TYPE)
(3) PERIODICALLY REPORT APPLICATION ACTUALLY USED AND
UC OPERATING SITE
(5) FUND TRANSFER VIA NET TO EACH SOFTWARE SUPPLYER
LOTUS
NET FUND TRANSFER
(2) ACCOUNTING PROCESSING BASED ON AN AMOUNT OF PURCHASED BATTERY
(4) SUM UP USE AMOUNT PER EACH APPLICATION
MANAGEMENT AND NOTIFICATION PROGRAM FOR USE AMOUNT
PHOTOSHOP
1-2-3
NOT USED
COMMON BATTERY

FIG. 35



US 2005/0256756 A1

FIG. 36



US 2003/0050894 A1 Mar. 13, 2003

FIG. 37

HISTORY TRANSMISSION LOG

TRANSMISSION DATE AND TIME (YEAR, MONTH, DATE, HOUR AND MINUTES)	TRANSMISSION RECORD NUMBER	PROCESSING STATUS

APPLICATION USE HISTORY

USER ID	APPLICATION TYPE CODE	USE AMOUNT	YEAR, MONTHS, DATE, TIME, MINUTES AND SECOND OF STARTING OF SUM-UP	YEAR, MONTHS, DATE, TIME, MINUTES AND SECOND OF FINISHING OF SUM-UP

FIG. 38

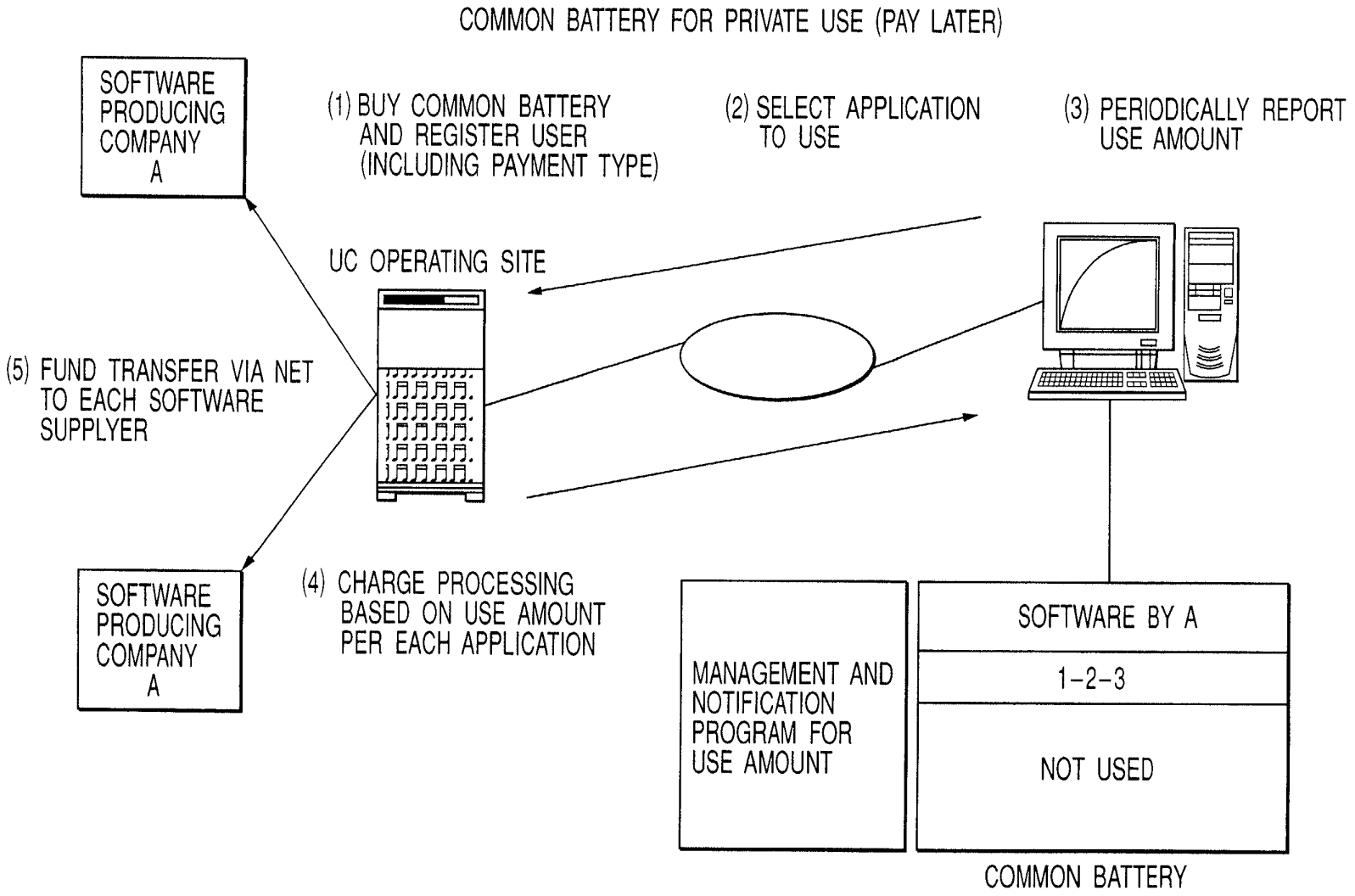
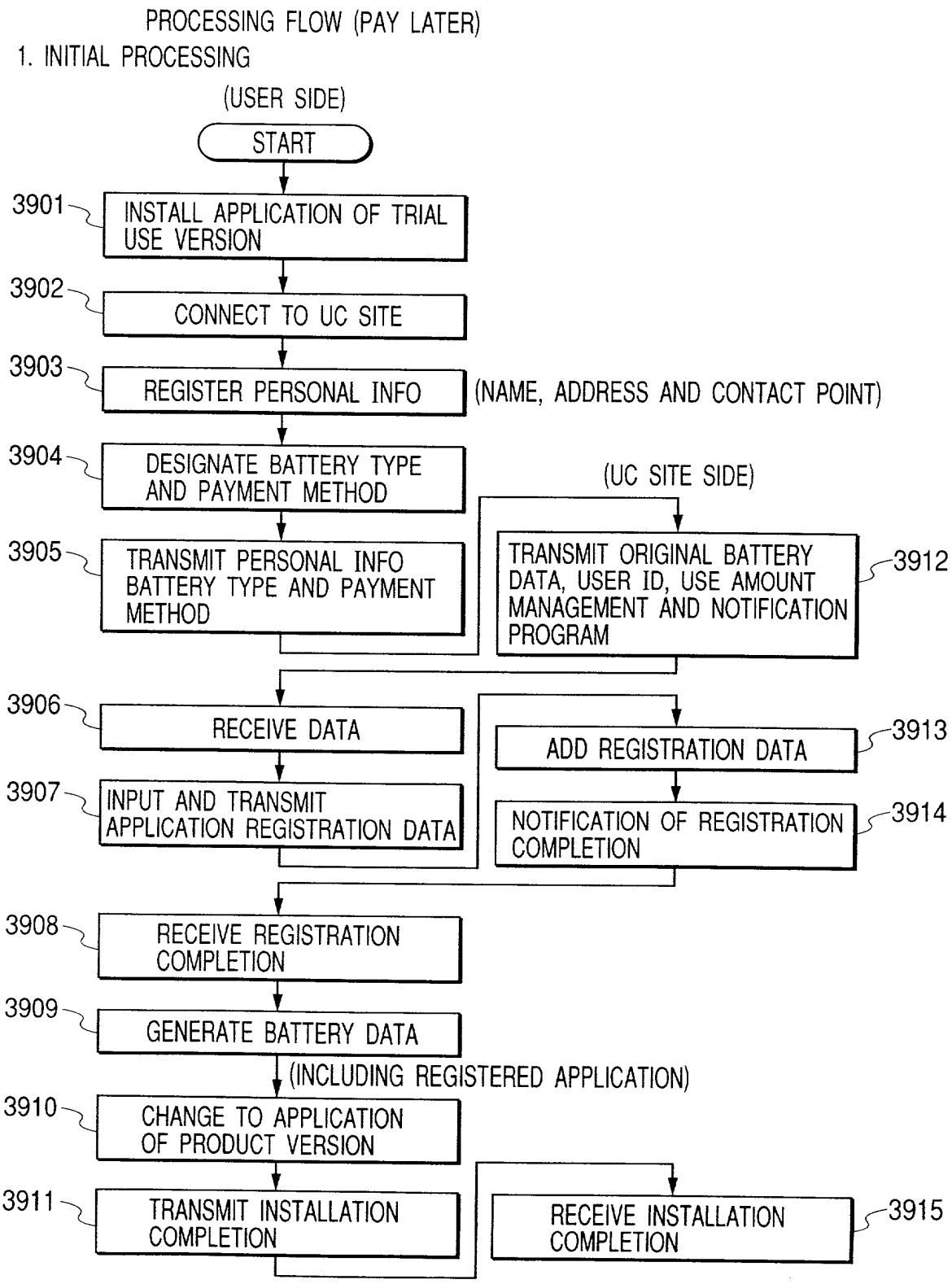
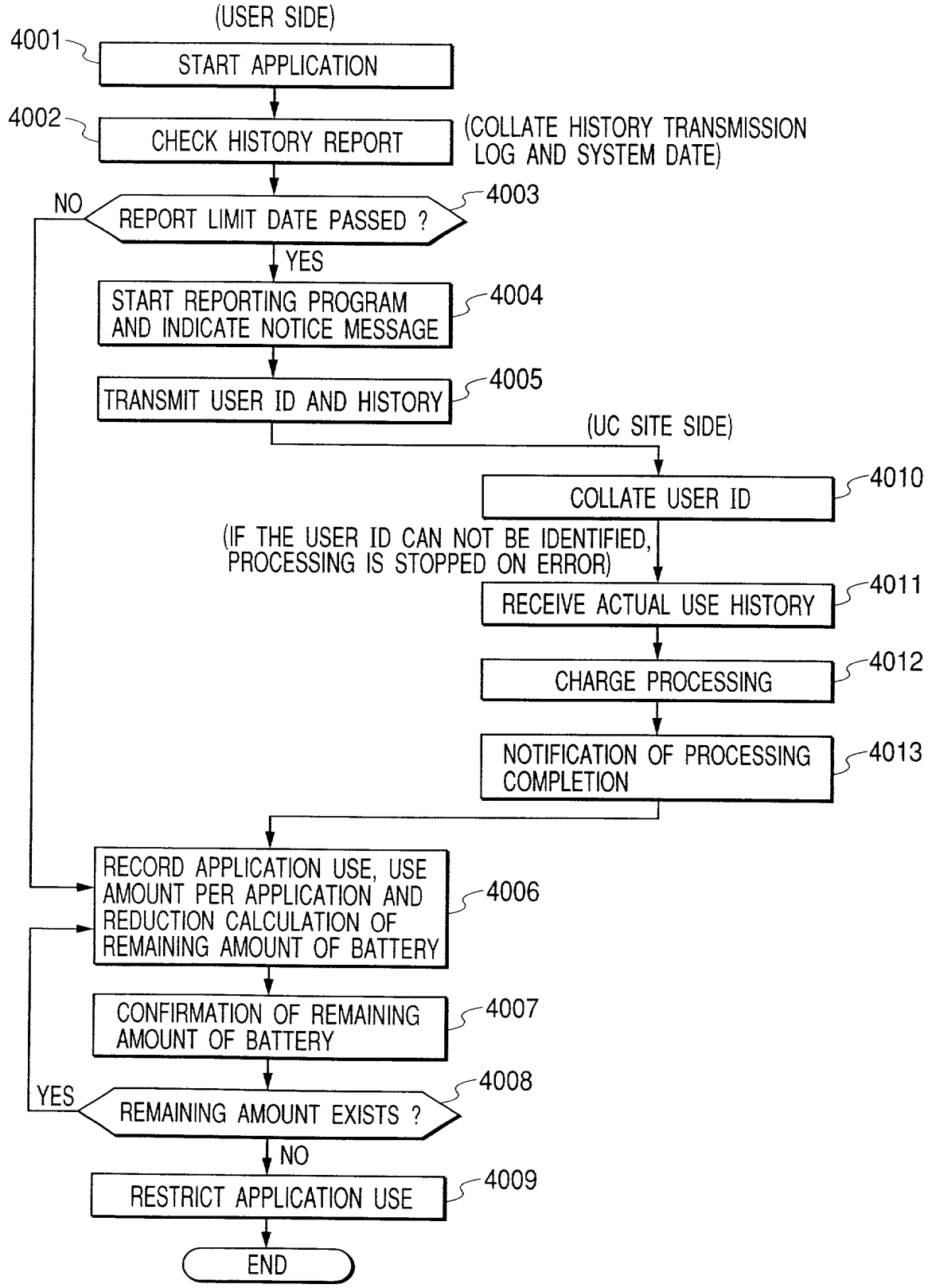

COMMON BATTERY FOR PRIVATE USE (PAY LATER)
SOFTWARE PRODUCING COMPANY A
(1) BUY COMMON BATTERY AND REGISTER USER (INCLUDING PAYMENT TYPE)
(2) SELECT APPLICATION TO USE
(3) PERIODICALLY REPORT USE AMOUNT
UC OPERATING SITE
(5) FUND TRANSFER VIA NET TO EACH SOFTWARE SUPPLYER
SOFTWARE PRODUCING COMPANY A
(4) CHARGE PROCESSING BASED ON USE AMOUNT PER EACH APPLICATION
MANAGEMENT AND NOTIFICATION PROGRAM FOR USE AMOUNT
SOFTWARE BY A
1-2-3
NOT USED
COMMON BATTERY

FIG. 39



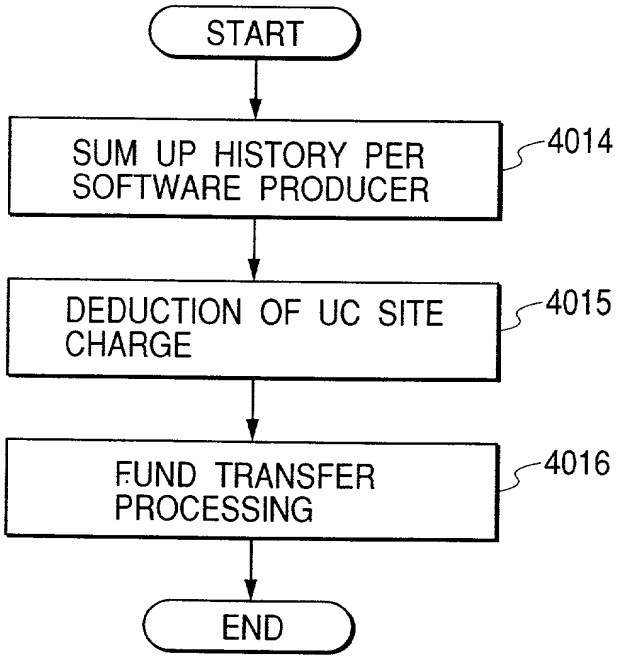
EP 4 050 545 A1

FIG. 40



US 2009/0265245 A1

FIG. 41



JP2005-050150-000041

FIG. 42

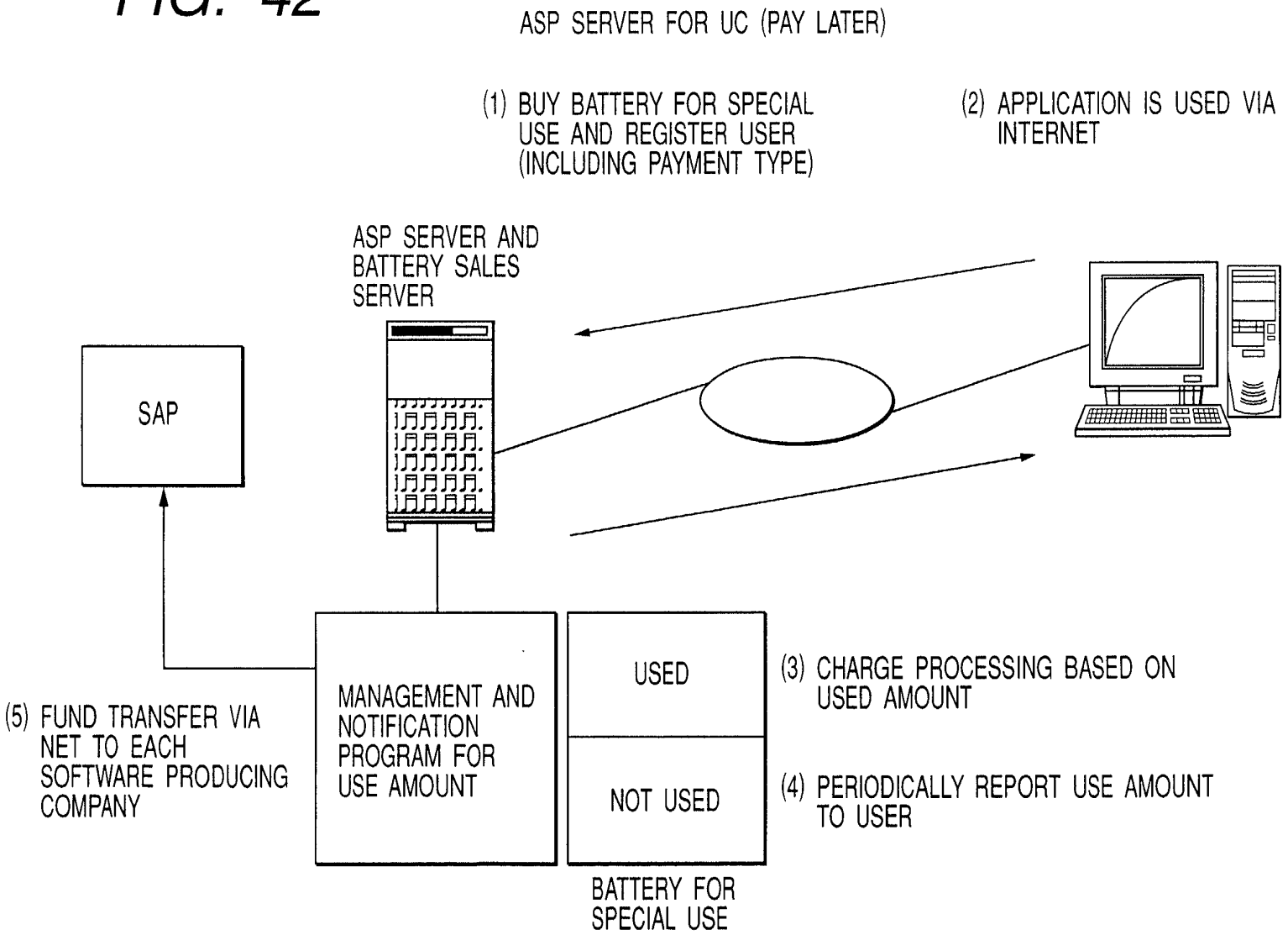

ASP SERVER FOR UC (PAY LATER)
(1) BUY BATTERY FOR SPECIAL USE AND REGISTER USER (INCLUDING PAYMENT TYPE)
(2) APPLICATION IS USED VIA INTERNET
ASP SERVER AND BATTERY SALES SERVER
SAP
MANAGEMENT AND NOTIFICATION PROGRAM FOR USE AMOUNT
USED
NOT USED
BATTERY FOR SPECIAL USE
(3) CHARGE PROCESSING BASED ON USED AMOUNT
(4) PERIODICALLY REPORT USE AMOUNT TO USER
(5) FUND TRANSFER VIA NET TO EACH SOFTWARE PRODUCING COMPANY

FIG. 43

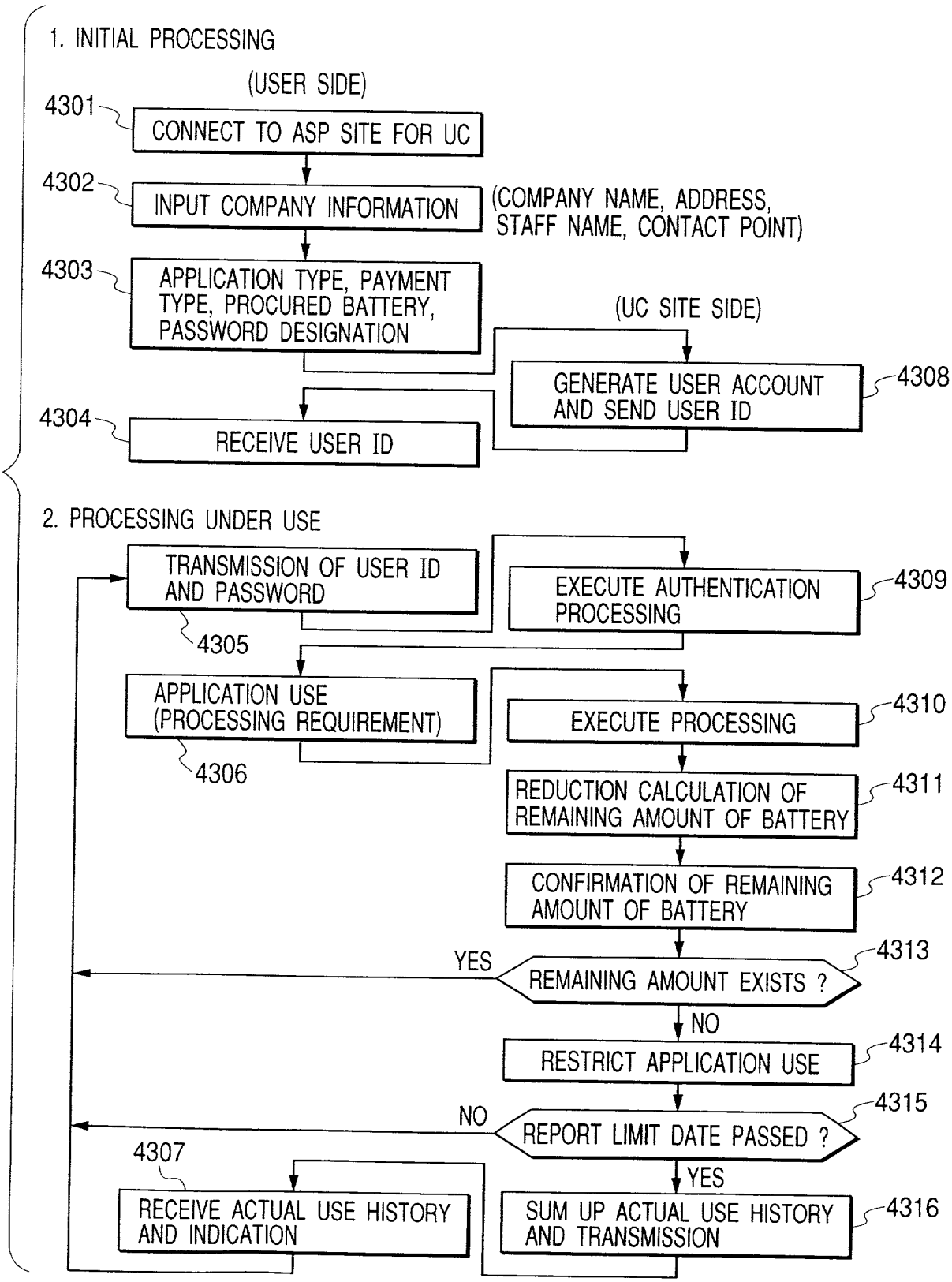

1. INITIAL PROCESSING
(USER SIDE)
4301
CONNECT TO ASP SITE FOR UC
4302
INPUT COMPANY INFORMATION
(COMPANY NAME, ADDRESS, STAFF NAME, CONTACT POINT)
4303
APPLICATION TYPE, PAYMENT TYPE, PROCURED BATTERY, PASSWORD DESIGNATION
(UC SITE SIDE)
GENERATE USER ACCOUNT AND SEND USER ID
4308
4304
RECEIVE USER ID
2. PROCESSING UNDER USE
TRANSMISSION OF USER ID AND PASSWORD
4305
EXECUTE AUTHENTICATION PROCESSING
4309
APPLICATION USE (PROCESSING REQUIREMENT)
4306
EXECUTE PROCESSING
4310
REDUCTION CALCULATION OF REMAINING AMOUNT OF BATTERY
4311
CONFIRMATION OF REMAINING AMOUNT OF BATTERY
4312
YES
REMAINING AMOUNT EXISTS ?
4313
NO
RESTRICT APPLICATION USE
4314
NO
REPORT LIMIT DATE PASSED ?
4315
4307
YES
RECEIVE ACTUAL USE HISTORY AND INDICATION
SUM UP ACTUAL USE HISTORY AND TRANSMISSION
4316

FIG. 44

APPLICATION USE HISTORY

USER ID		APPLICATION TYPE CODE	USE AMOUNT	YEAR, MONTHS, DATE, TIME, MINUTES AND SECOND OF STARTING OF SUM-UP	YEAR, MONTHS, DATE, TIME, MINUTES AND SECOND OF FINISHING OF SUM-UP
COMPANY CODE	PERSONAL ID				

FIG. 45

INITIAL DATA TRANSMITTED FROM USER SIDE TO SAT SERVER

APPLICATION TYPE CODE	CATEGORY FOR PAYMENT	NAME	(CREDIT CARD NO.)	(VALID PERIOD)

FIG. 46

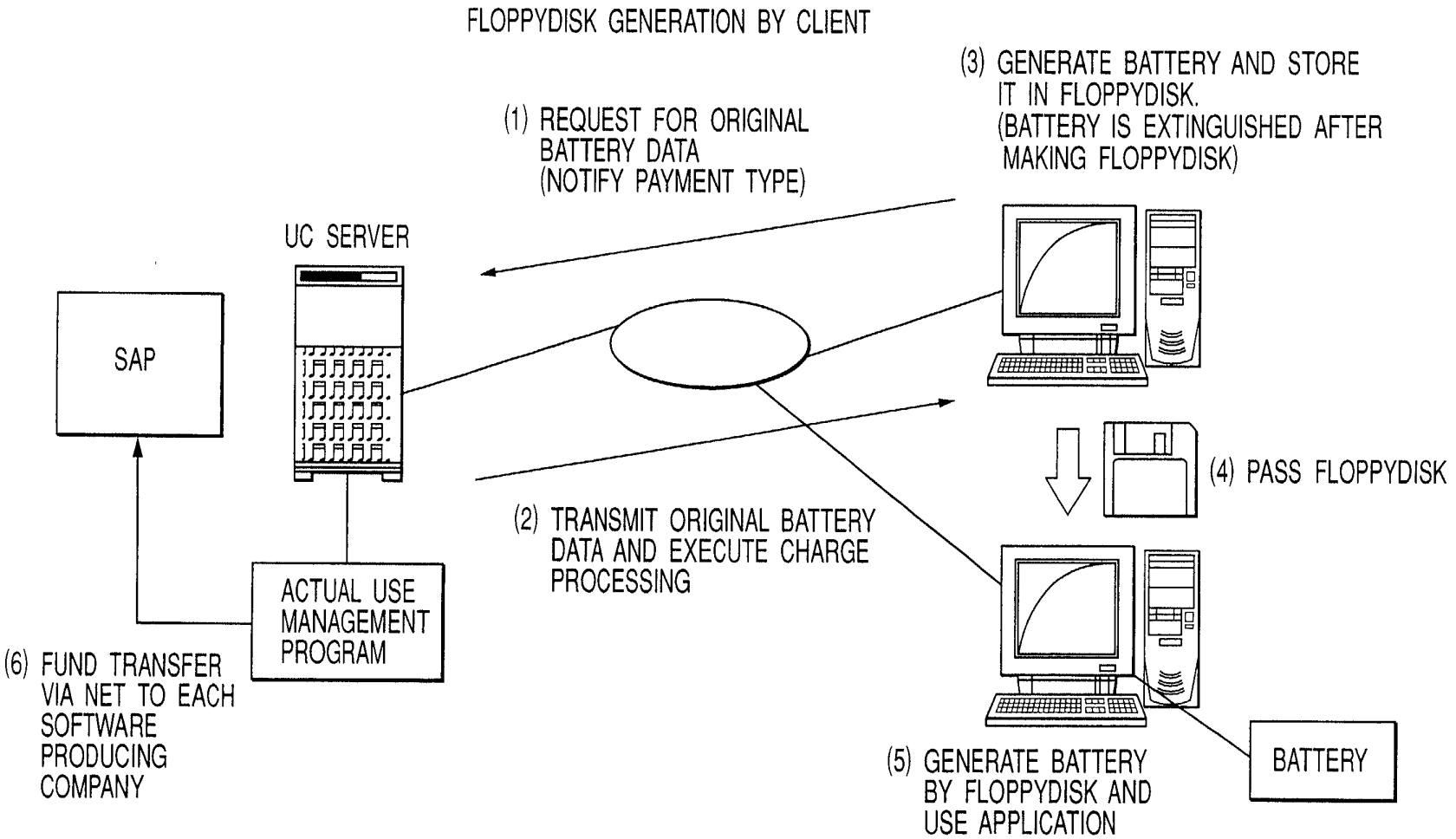
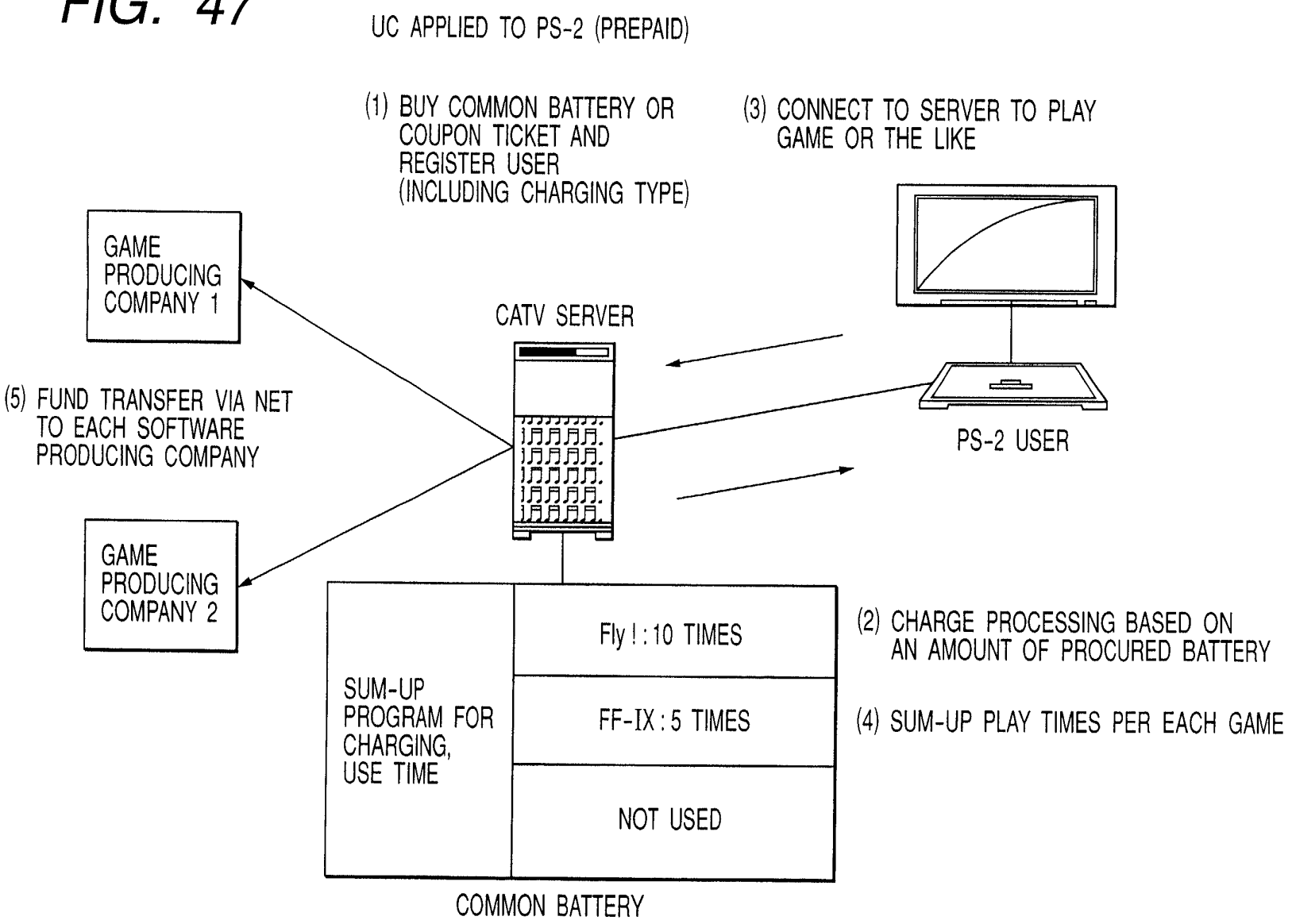

FLOPPYDISK GENERATION BY CLIENT
(1) REQUEST FOR ORIGINAL BATTERY DATA (NOTIFY PAYMENT TYPE)
(3) GENERATE BATTERY AND STORE IT IN FLOPPYDISK. (BATTERY IS EXTINGUISHED AFTER MAKING FLOPPYDISK)
UC SERVER
SAP
(4) PASS FLOPPYDISK
(2) TRANSMIT ORIGINAL BATTERY DATA AND EXECUTE CHARGE PROCESSING
ACTUAL USE MANAGEMENT PROGRAM
(6) FUND TRANSFER VIA NET TO EACH SOFTWARE PRODUCING COMPANY
(5) GENERATE BATTERY BY FLOPPYDISK AND USE APPLICATION
BATTERY

FIG. 47


UC APPLIED TO PS-2 (PREPAID)
(1) BUY COMMON BATTERY OR COUPON TICKET AND REGISTER USER (INCLUDING CHARGING TYPE)
(3) CONNECT TO SERVER TO PLAY GAME OR THE LIKE
GAME PRODUCING COMPANY 1
CATV SERVER
(5) FUND TRANSFER VIA NET TO EACH SOFTWARE PRODUCING COMPANY
PS-2 USER
GAME PRODUCING COMPANY 2
SUM-UP PROGRAM FOR CHARGING, USE TIME
Fly ! : 10 TIMES
FF-IX : 5 TIMES
NOT USED
(2) CHARGE PROCESSING BASED ON AN AMOUNT OF PROCURED BATTERY
(4) SUM-UP PLAY TIMES PER EACH GAME
COMMON BATTERY

GAME MACHINE (1) OF USER
CPU
CONTROLLER
MEMORY
PROGRAM
GAME MACHINE (2) OF USER
CPU
CONTROLLER
MEMORY
PROGRAM
INTERNET (e.g. CATV LINE)
SERVER OF GAME VENDOR
CPU
MONITOR
MEMORY
KEYBOARD
HARD DISK
PROGRAM
FUND TRANSFER VIA NET
CENTER (AT VENDOR'S SERVER(S))
CPU
MONITOR
MEMORY
KEYBOARD
HARD DISK (1)
PROGRAM
PROGRAM
HARD DISK (2)
USER DATA
USER DATA
COMMON GAMES UTILIZED VIA NET IS STORED AMONG PLAYERS

FIG. 48

FIG. 49

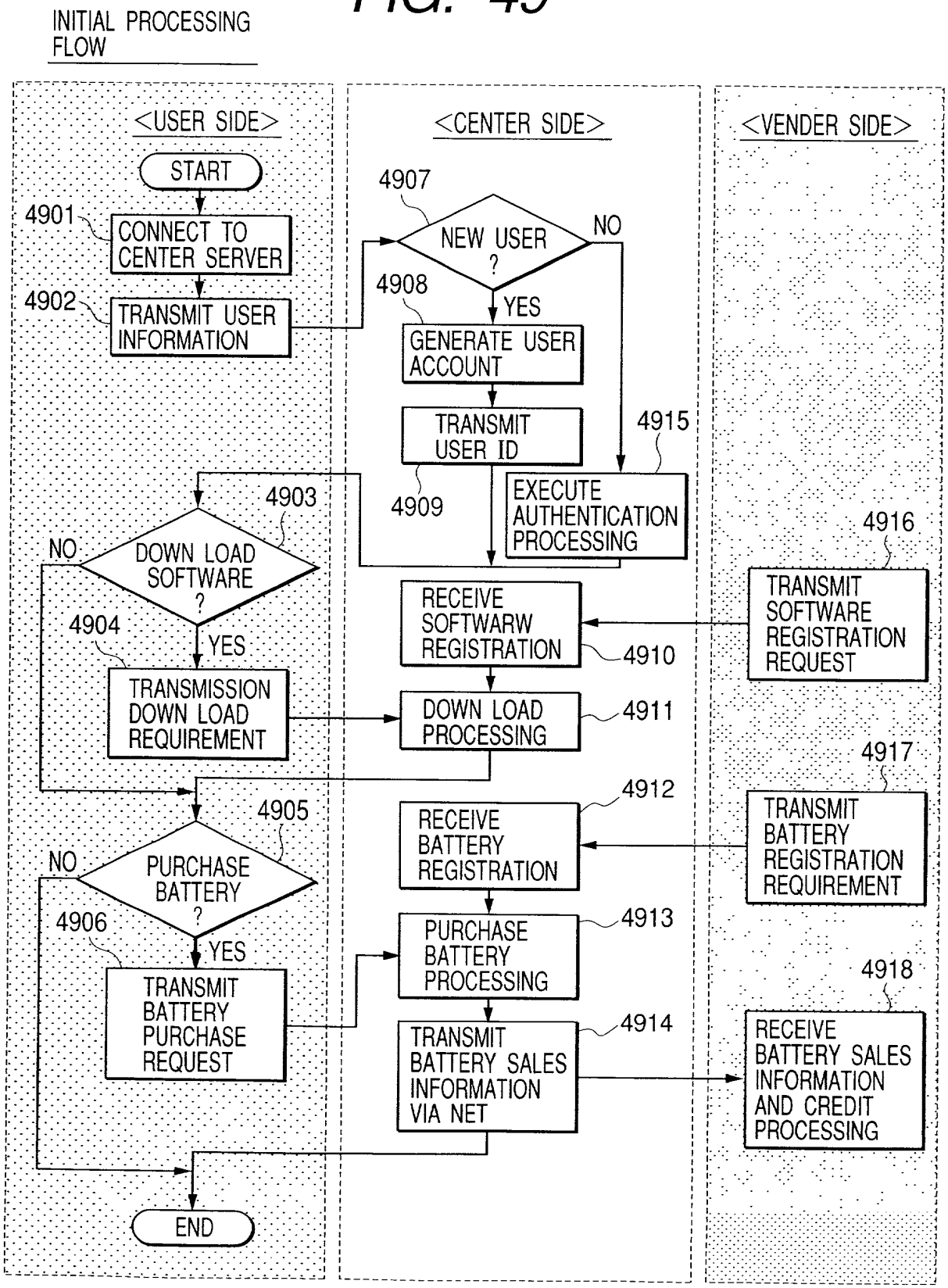

INITIAL PROCESSING FLOW
<USER SIDE>
<CENTER SIDE>
<VENDER SIDE>
START
4901
CONNECT TO CENTER SERVER
4902
TRANSMIT USER INFORMATION
4907
NEW USER ?
NO
YES
4908
GENERATE USER ACCOUNT
TRANSMIT USER ID
4909
4915
EXECUTE AUTHENTICATION PROCESSING
4903
DOWN LOAD SOFTWARE ?
NO
YES
4904
TRANSMISSION DOWN LOAD REQUIREMENT
RECEIVE SOFTWARW REGISTRATION
4910
4916
TRANSMIT SOFTWARE REGISTRATION REQUEST
DOWN LOAD PROCESSING
4911
4905
PURCHASE BATTERY ?
NO
YES
4906
TRANSMIT BATTERY PURCHASE REQUEST
RECEIVE BATTERY REGISTRATION
4912
4917
TRANSMIT BATTERY REGISTRATION REQUIREMENT
PURCHASE BATTERY PROCESSING
4913
TRANSMIT BATTERY SALES INFORMATION VIA NET
4914
4918
RECEIVE BATTERY SALES INFORMATION AND CREDIT PROCESSING
END

FIG. 50A

FIG. 50

FIG. 50A	FIG. 50B

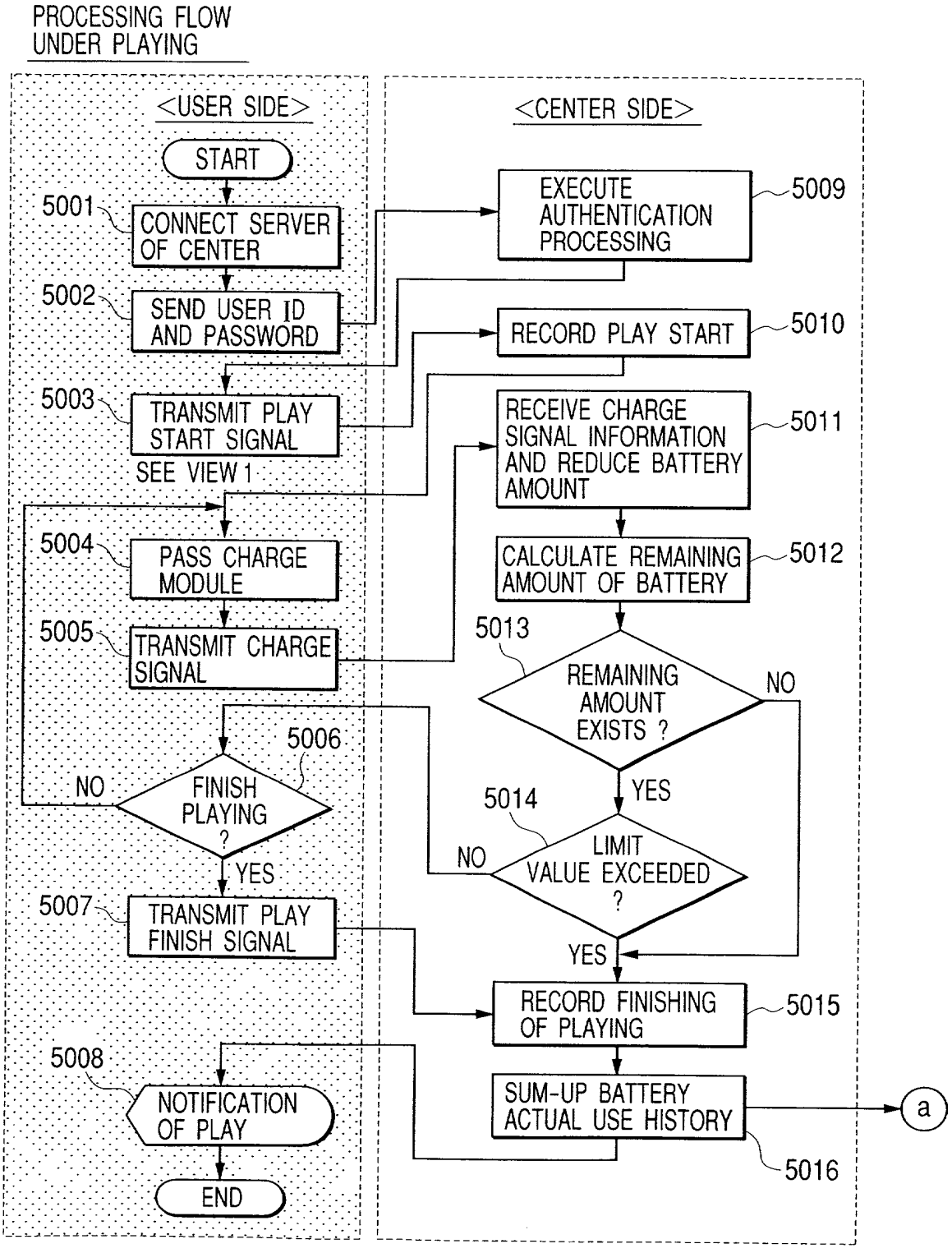


FIG. 50B

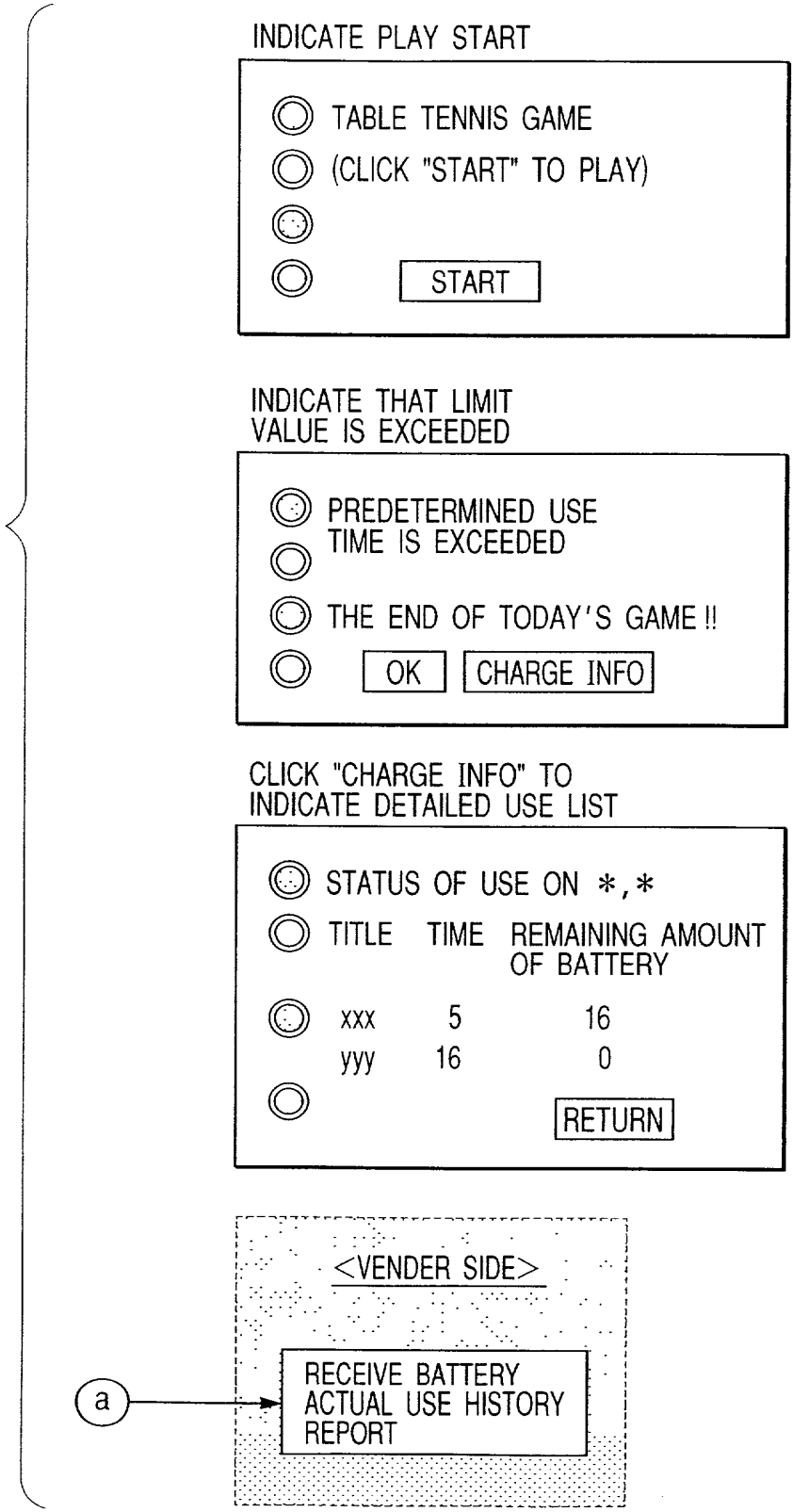

INDICATE PLAY START
TABLE TENNIS GAME
(CLICK "START" TO PLAY)
START
INDICATE THAT LIMIT VALUE IS EXCEEDED
PREDETERMINED USE TIME IS EXCEEDED
THE END OF TODAY'S GAME !!
OK
CHARGE INFO
CLICK "CHARGE INFO" TO INDICATE DETAILED USE LIST
STATUS OF USE ON *,*
TITLE TIME REMAINING AMOUNT OF BATTERY
xxx 5 16
yyy 16 0
RETURN
<VENDER SIDE>
a
RECEIVE BATTERY ACTUAL USE HISTORY REPORT

FIG. 51

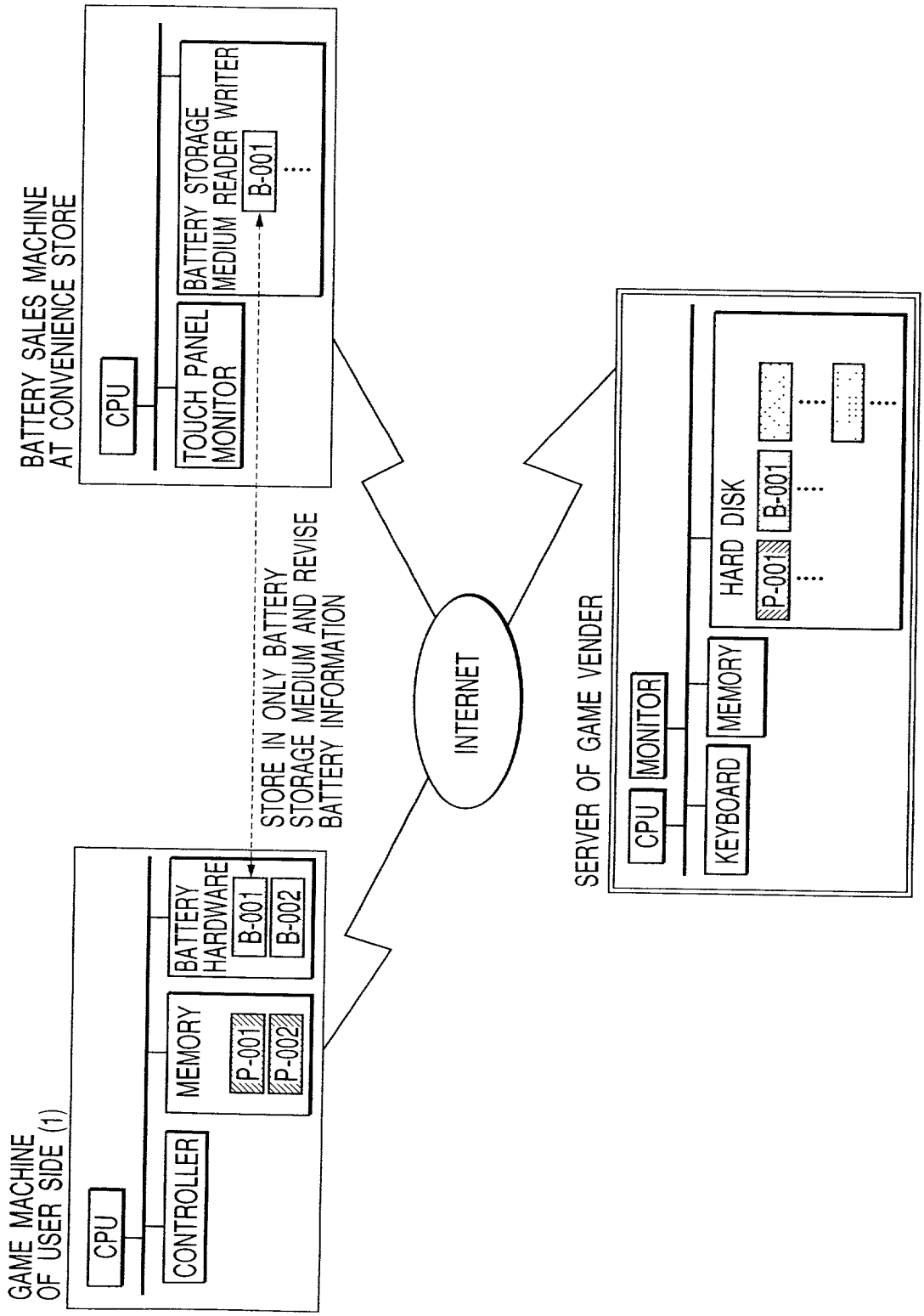

GAME MACHINE
OF USER SIDE (1)
CPU
CONTROLLER
MEMORY
P-001
P-002
BATTERY
HARDWARE
B-001
B-002
STORE IN ONLY BATTERY
STORAGE MEDIUM AND REVISE
BATTERY INFORMATION
BATTERY SALES MACHINE
AT CONVENIENCE STORE
CPU
TOUCH PANEL
MONITOR
BATTERY STORAGE
MEDIUM READER WRITER
B-001
INTERNET
SERVER OF GAME VENDER
CPU
MONITOR
KEYBOARD
MEMORY
HARD DISK
P-001
B-001

FIG. 52

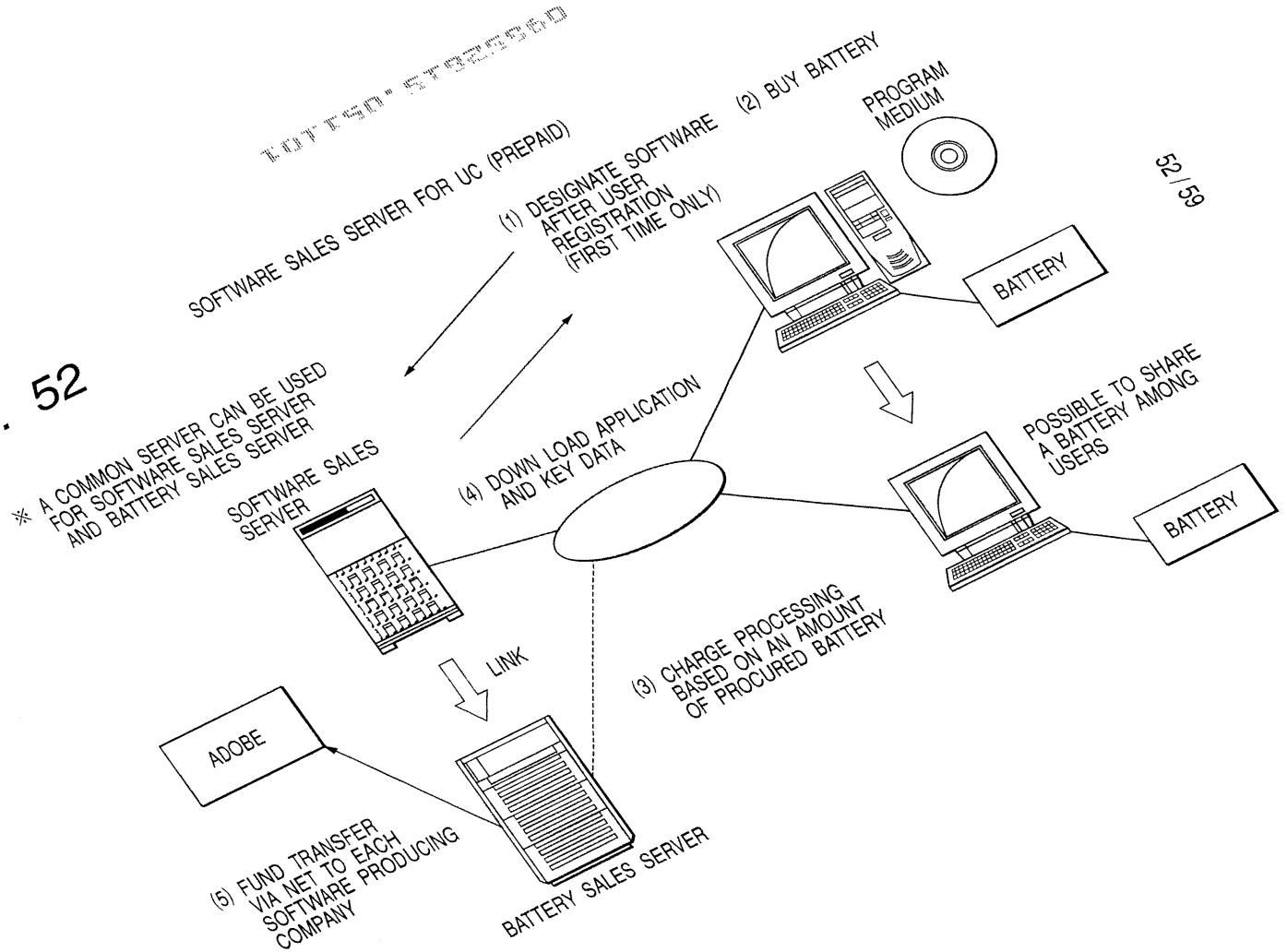

SOFTWARE SALES SERVER FOR UC (PREPAID)
(1) DESIGNATE SOFTWARE AFTER USER REGISTRATION (FIRST TIME ONLY)
(2) BUY BATTERY
PROGRAM MEDIUM
BATTERY
POSSIBLE TO SHARE A BATTERY AMONG USERS
BATTERY
(4) DOWN LOAD APPLICATION AND KEY DATA
※ A COMMON SERVER CAN BE USED FOR SOFTWARE SALES SERVER AND BATTERY SALES SERVER
SOFTWARE SALES SERVER
LINK
(3) CHARGE PROCESSING BASED ON AN AMOUNT OF PROCURED BATTERY
ADOBE
(5) FUND TRANSFER VIA NET TO EACH SOFTWARE PRODUCING COMPANY
BATTERY SALES SERVER

FIG. 53

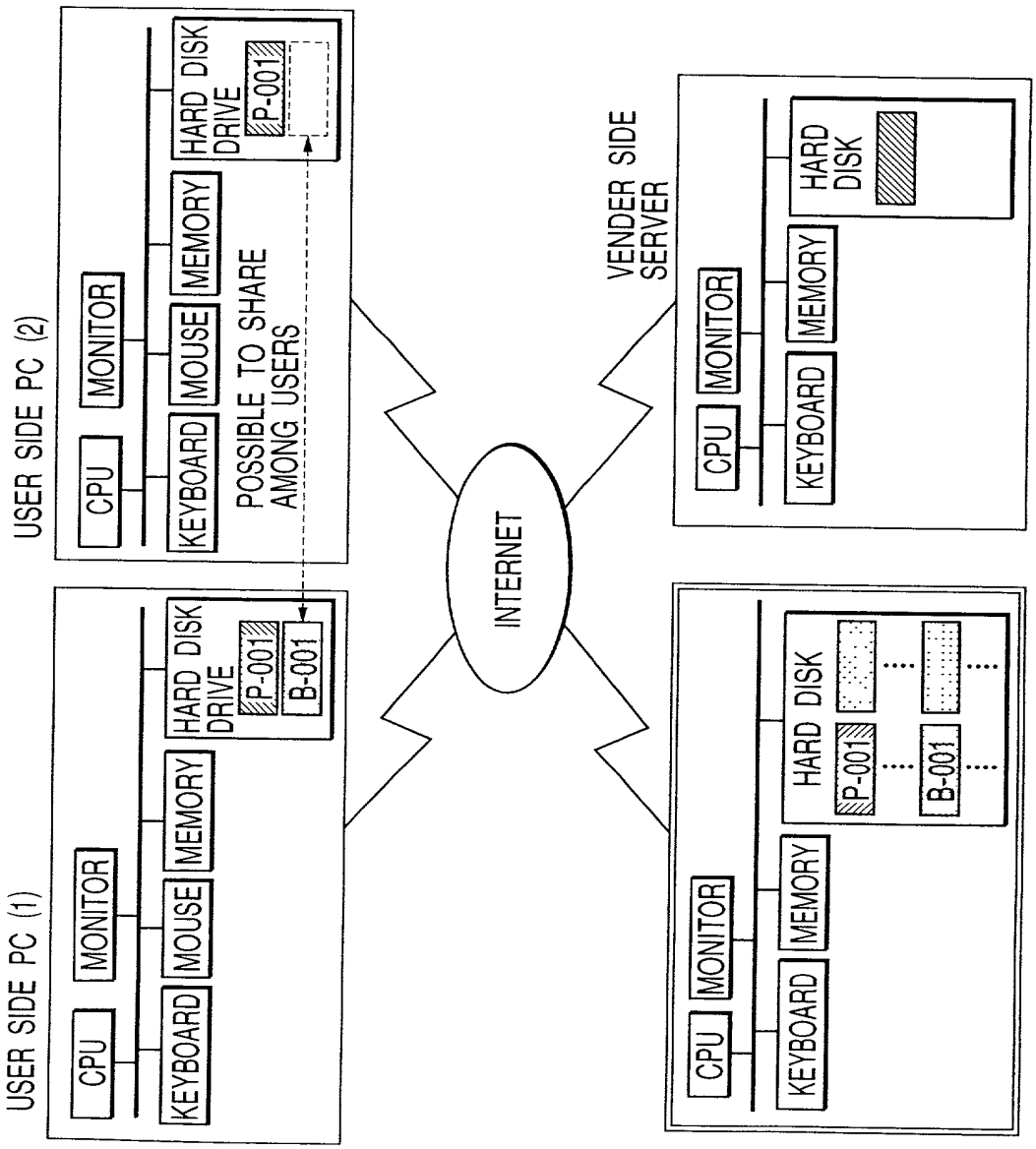

USER SIDE PC (1)
CPU
MONITOR
KEYBOARD
MOUSE
MEMORY
HARD DISK DRIVE
P-001
B-001
USER SIDE PC (2)
CPU
MONITOR
KEYBOARD
MOUSE
MEMORY
HARD DISK DRIVE
P-001
POSSIBLE TO SHARE AMONG USERS
INTERNET
VENDER SIDE SERVER
CPU
MONITOR
KEYBOARD
MEMORY
HARD DISK
CPU
MONITOR
KEYBOARD
MEMORY
HARD DISK
P-001
B-001

FIG. 54

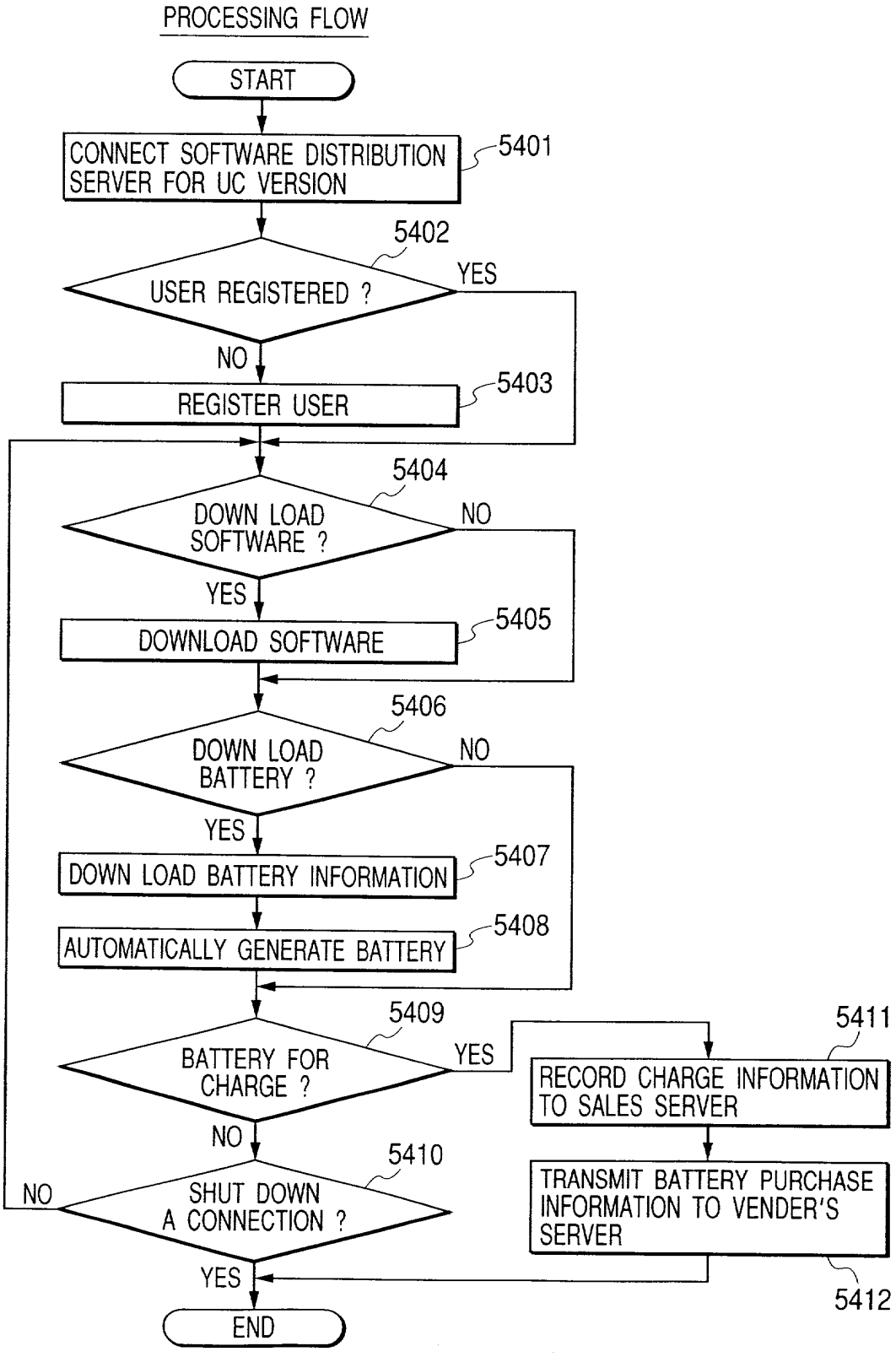
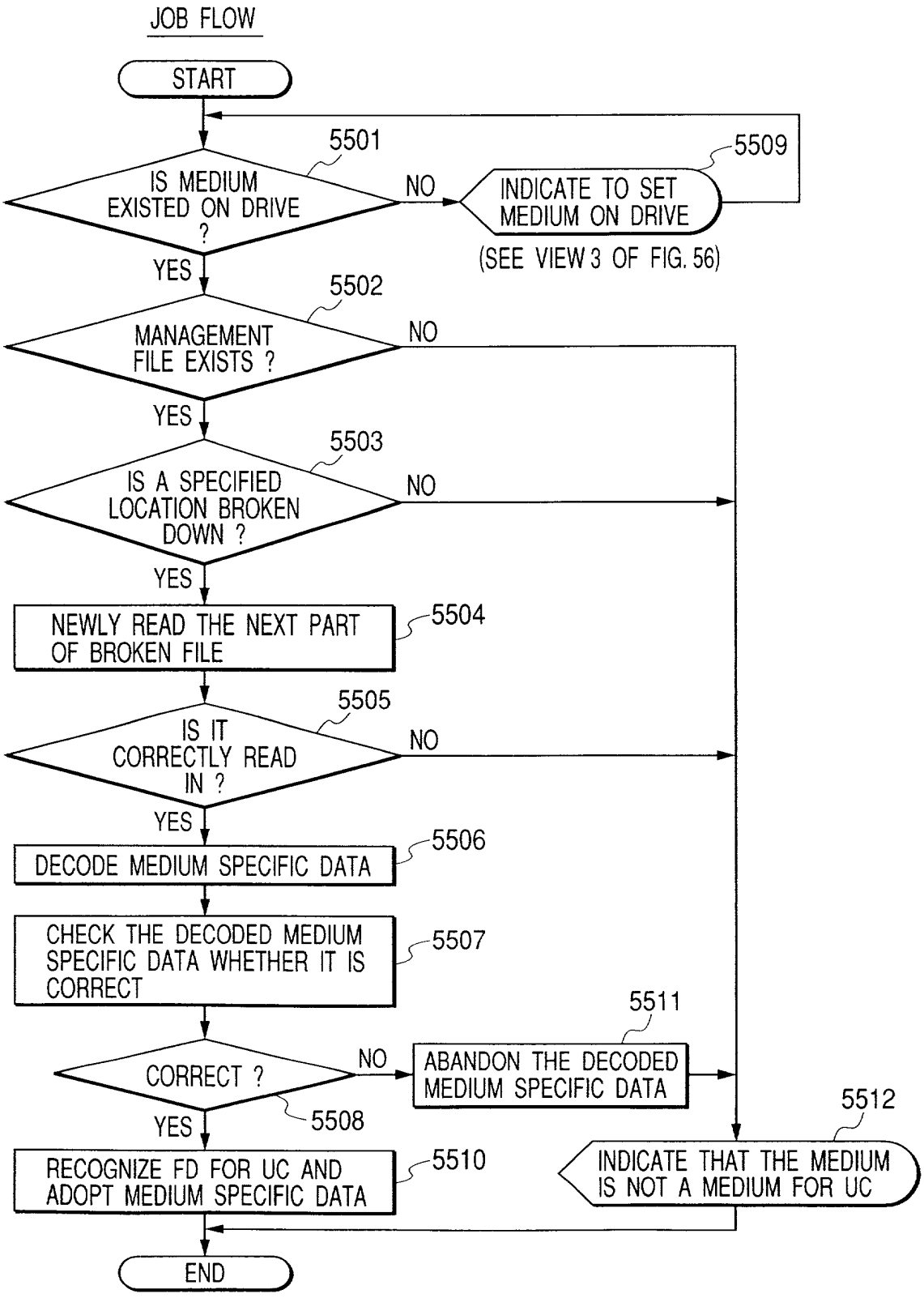

PROCESSING FLOW
START
CONNECT SOFTWARE DISTRIBUTION SERVER FOR UC VERSION
5401
5402
USER REGISTERED ?
YES
NO
REGISTER USER
5403
5404
DOWN LOAD SOFTWARE ?
NO
YES
DOWNLOAD SOFTWARE
5405
5406
DOWN LOAD BATTERY ?
NO
YES
DOWN LOAD BATTERY INFORMATION
5407
AUTOMATICALLY GENERATE BATTERY
5408
5409
BATTERY FOR CHARGE ?
YES
NO
5410
SHUT DOWN A CONNECTION ?
NO
YES
END
5411
RECORD CHARGE INFORMATION TO SALES SERVER
TRANSMIT BATTERY PURCHASE INFORMATION TO VENDER'S SERVER
5412

FIG. 55


JOB FLOW
START
5501
IS MEDIUM EXISTED ON DRIVE ?
NO
5509
INDICATE TO SET MEDIUM ON DRIVE
(SEE VIEW 3 OF FIG. 56)
YES
5502
MANAGEMENT FILE EXISTS ?
NO
YES
5503
IS A SPECIFIED LOCATION BROKEN DOWN ?
NO
YES
NEWLY READ THE NEXT PART OF BROKEN FILE
5504
5505
IS IT CORRECTLY READ IN ?
NO
YES
DECODE MEDIUM SPECIFIC DATA
5506
CHECK THE DECODED MEDIUM SPECIFIC DATA WHETHER IT IS CORRECT
5507
5511
CORRECT ?
NO
ABANDON THE DECODED MEDIUM SPECIFIC DATA
5508
YES
5512
RECOGNIZE FD FOR UC AND ADOPT MEDIUM SPECIFIC DATA
5510
INDICATE THAT THE MEDIUM IS NOT A MEDIUM FOR UC
END

EP 2 256 605 A1

FIG. 56

VIEW 3

EMBODIMENT IN CASE THAT MEDIUM IS FLOPPY DISK

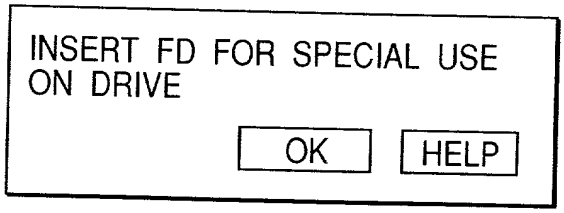


FIG. 57

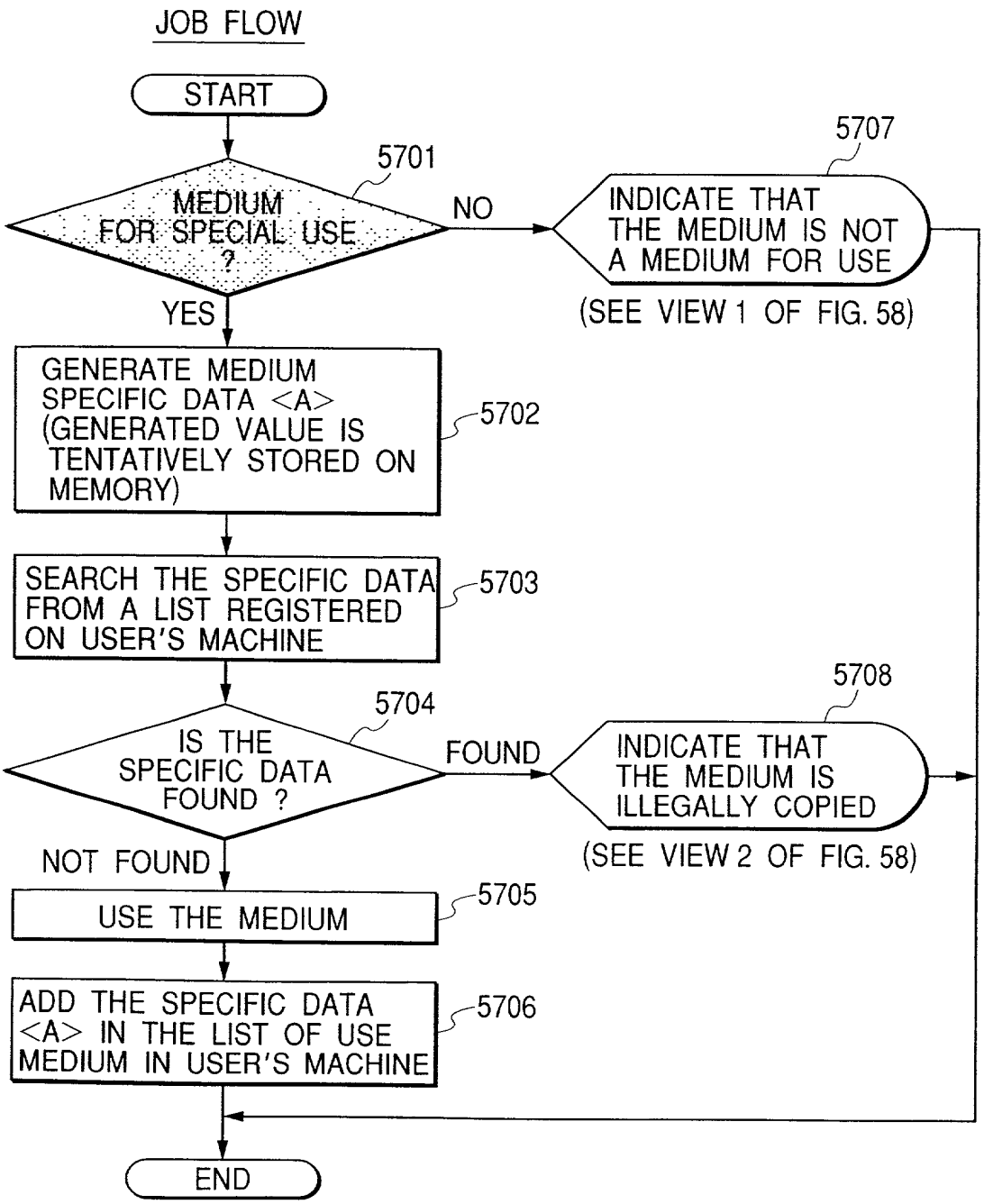

JOB FLOW
START
5701
MEDIUM FOR SPECIAL USE ?
NO
5707
INDICATE THAT THE MEDIUM IS NOT A MEDIUM FOR USE
(SEE VIEW 1 OF FIG. 58)
YES
GENERATE MEDIUM SPECIFIC DATA <A> (GENERATED VALUE IS TENTATIVELY STORED ON MEMORY)
5702
SEARCH THE SPECIFIC DATA FROM A LIST REGISTERED ON USER'S MACHINE
5703
5704
IS THE SPECIFIC DATA FOUND ?
FOUND
5708
INDICATE THAT THE MEDIUM IS ILLEGALLY COPIED
(SEE VIEW 2 OF FIG. 58)
NOT FOUND
USE THE MEDIUM
5705
ADD THE SPECIFIC DATA <A> IN THE LIST OF USE MEDIUM IN USER'S MACHINE
5706
END

FIG. 58

VIEW 1
THE EMBODIMENT IN CASE
THAT MEDIUM IS FLOPPYDISK

THIS FD IS NOT FD FOR
SPECIAL USE.
INSERT FD FOR SPECIAL USE.

CLOSE HELP

VIEW 2
THE EMBODIMENT IN CASE
THAT MEDIUM IS FLOPPYDISK

THIS FD IS ONE COPIED
FROM ORIGINAL.
INSERT ORIGINAL FD.

CLOSE HELP

FIG. 59

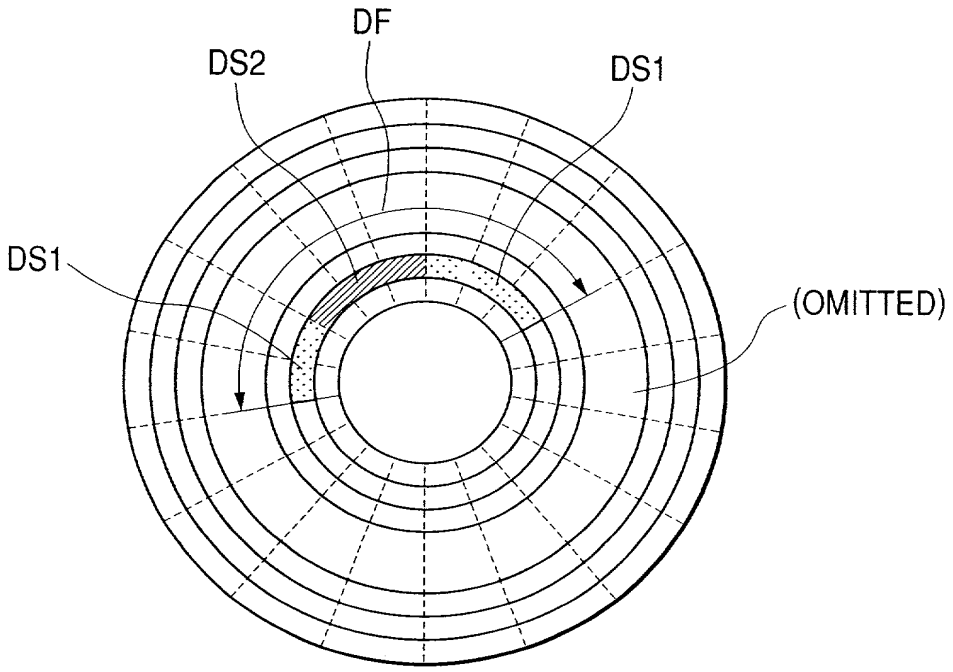


FIG. 60

CONTENTS OF MANAGEMENT FILE

A SERIAL NUMBER OF MEDIUM (A PART)
FORMATTED DATE INFORMATION (A PART)
DATE INFORMATION OF THE DATE LASTLY REVISED (A PART)
DUMMY DATA
⋮ DEFECTIVE AREA
A SERIAL NUMBER OF MEDIUM (REMAINING PART)
FORMATTED DATE INFORMATION (REMAINING PART)
DATE INFORMATION OF THE DATE LASTLY REVISED (REMAINING PART)
CHECK SUM
DUMMY DATA

EP 0 969 475 A2